

# TRAFFIC IMPACT STUDY

For

## Percheron Master Plan Amendment Colorado Springs, Colorado

September 2025  
Revised October 2025

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24-112294

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## I. Introduction

### Project Overview

This traffic impact study is provided as a planning document and addresses the capacity, geometric, and control requirements associated with the development entitled Percheron Master Plan Amendment.

This traffic impact study has been revised to address City review comments dated October 21, 2025, regarding updates to Synchro analysis and traffic queue tables.

This proposed mixed-use development consists of a mix of residential, commercial, and public park land uses. The development is located to the north and south of E Woodmen Road between Mohawk Road and Golden Sage Road in Colorado Springs, Colorado.

### Study Area Boundaries

The study area to be examined in this analysis encompasses the E Woodmen Road intersections with Mohawk Road, Banning Lewis Parkway, and Golden Sage Road, as well as the Woodmen Frontage Road intersections with Mohawk Road and Golden Sage Road, and the future Banning Lewis Parkway intersections with Carlana Drive, Golden Jubilee Drive, and additional proposed site access drives.

Figure 1 illustrates location of the site and study intersections.

### Site Description

Land for the development is currently vacant and surrounded by a mix of residential, commercial, and light industrial land uses.

The proposed development is conceptual and specific land uses and densities may be subject to change. However, for purposes of this analysis, there is assumed to be construction of approximately 1,900 single-family homes, 1,000 multifamily homes, 12 acres of public parks, a sports complex containing 30 soccer fields, an elementary school with a capacity of 1,100 students, a 26,000 square foot fire station, 260,000 square feet of office park uses, and 915,000 square feet of retail.

Proposed access to the development is provided via multiple access drives along E Woodmen Road, Woodmen Frontage Road, and Banning Lewis Parkway. As specific land uses and densities are further defined, specific parcel access locations may also be subject to change. However, for purposes of this analysis, primary access locations include three full-movement accesses onto Banning Lewis Parkway, two full-movement accesses onto Woodmen Frontage Road, and one full-movement access onto Golden Sage Road.

It is noted that site access drives internal to the overall development area were not included in this analysis as internal intersection operations are expected to be comparable to, or better than, those projected for the intersections analyzed along E Woodmen Road and Banning Lewis Parkway.

It is anticipated that site development will be phased, however the timing for when specific phases may occur is unknown. Therefore, for purposes of this analysis, it is assumed that full build-out would occur by Year 2030. It is, however, noted that the residential portion of the initial phase of development is understood to be currently under construction.

General site and access locations are shown on Figure 1.

A conceptual site plan, as prepared by N.E.S. Inc., is shown in Figure 2. This plan is provided for illustrative purposes only.

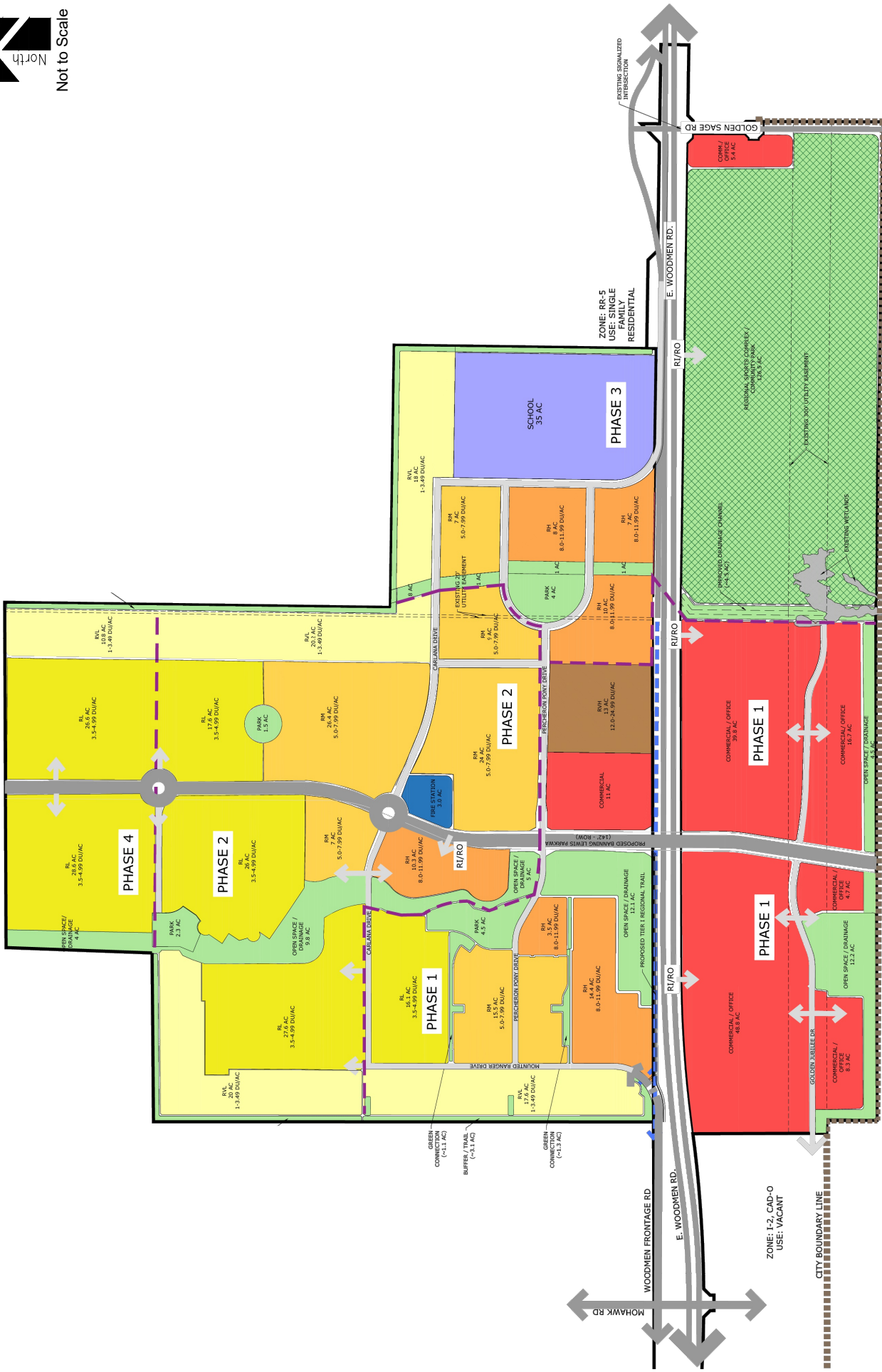


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Figure 2  
CONCEPTUAL SITE PLAN

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## Existing and Committed Surface Transportation Network

Within the study area, Banning Lewis Parkway and Woodmen Frontage Road are the primary roadways that will accommodate traffic to and from the proposed development. The secondary roadways include E Woodmen Road, Mohawk Road and Golden Sage Road. A brief description of each roadway, County's Major Transportation Corridors Plan (MTCP)<sup>1</sup> and City of Colorado Springs Major Thoroughfare Plan (MTP)<sup>2</sup>, is provided below:

Banning Lewis Parkway is a north-south principal arterial roadway having six through lanes (three lanes in each direction) with exclusive turn lanes at the intersection within the study area. Banning Lewis Parkway provides a posted speed limit of 40 MPH.

Woodmen Frontage Road is an east-west major collector roadway having two through lanes (one lane in each direction) with shared turn lanes at the intersections within the study area. Woodmen Frontage Road provides a posted speed limit of 35 MPH.

E Woodmen Road is an east-west expressway roadway having six through lanes (three lanes in each direction) west of Golden Sage Road and four through lanes (two lanes in each direction) east of Golden Sage Road. E Woodmen Road has exclusive turn lanes at the intersections within the study area. E Woodmen Road provides a posted speed limit of 55 MPH.

Mohawk Road is a north-south local roadway having two through lanes (one lane in each direction) with a combination of shared and exclusive turn lanes at the intersections within the study area. Mohawk Road provides a posted speed limit of 30 MPH.

Golden Sage Road is a north-south minor arterial roadway having two through lanes (one lane in each direction) with a combination of shared and exclusive turn lanes at the intersections within the study area. Golden Sage Road provides a posted speed limit of 35 MPH.

The E Woodmen Road intersections with Banning Lewis Parkway, Mohawk Road, and Golden Sage Road are signalized. All other study intersections operate under a stop-controlled condition. A stop-controlled intersection is defined as a roadway intersection where vehicle rights-of-way are controlled by one or more "STOP" signs.

Pursuant to the County's MTCP, E Woodmen Road will be widened from four to six through lanes from Golden Sage Road to U.S. Highway 24. For analysis purposes, it is assumed this improvement to be completed by Year 2045.

No other regional or specific improvements for the above-described roadways are known to be planned or committed at this time. The study area roadways appear to be built to their ultimate cross-sections.

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<sup>1</sup> El Paso County Major Transportation Corridors Plan, Felsburg Holt & Ullevig, July 18, 2024.

<sup>2</sup> City of Colorado Springs Major Thoroughfare Plan, City of Colorado Springs, Department of Public Works, May 16, 2025.

## **II. Existing Traffic Conditions**

Morning (AM) and afternoon (PM) peak hour traffic counts were collected at the intersections of E Woodmen Road with Mohawk Road, Banning Lewis Parkway, and Golden Sage Road as well as the Woodmen Frontage Road intersections with Mohawk Road and Golden Sage Road. Average daily traffic (ADT) volumes were collected over a 24-hour period on E Woodmen Road. Counts were collected on Wednesday, August 27, 2025, with AM peak hour counts being collected during the period of 7:00 a.m. to 9:00 a.m. and PM peak hour counts being collected during the period of 4:00 p.m. to 6:00 p.m.

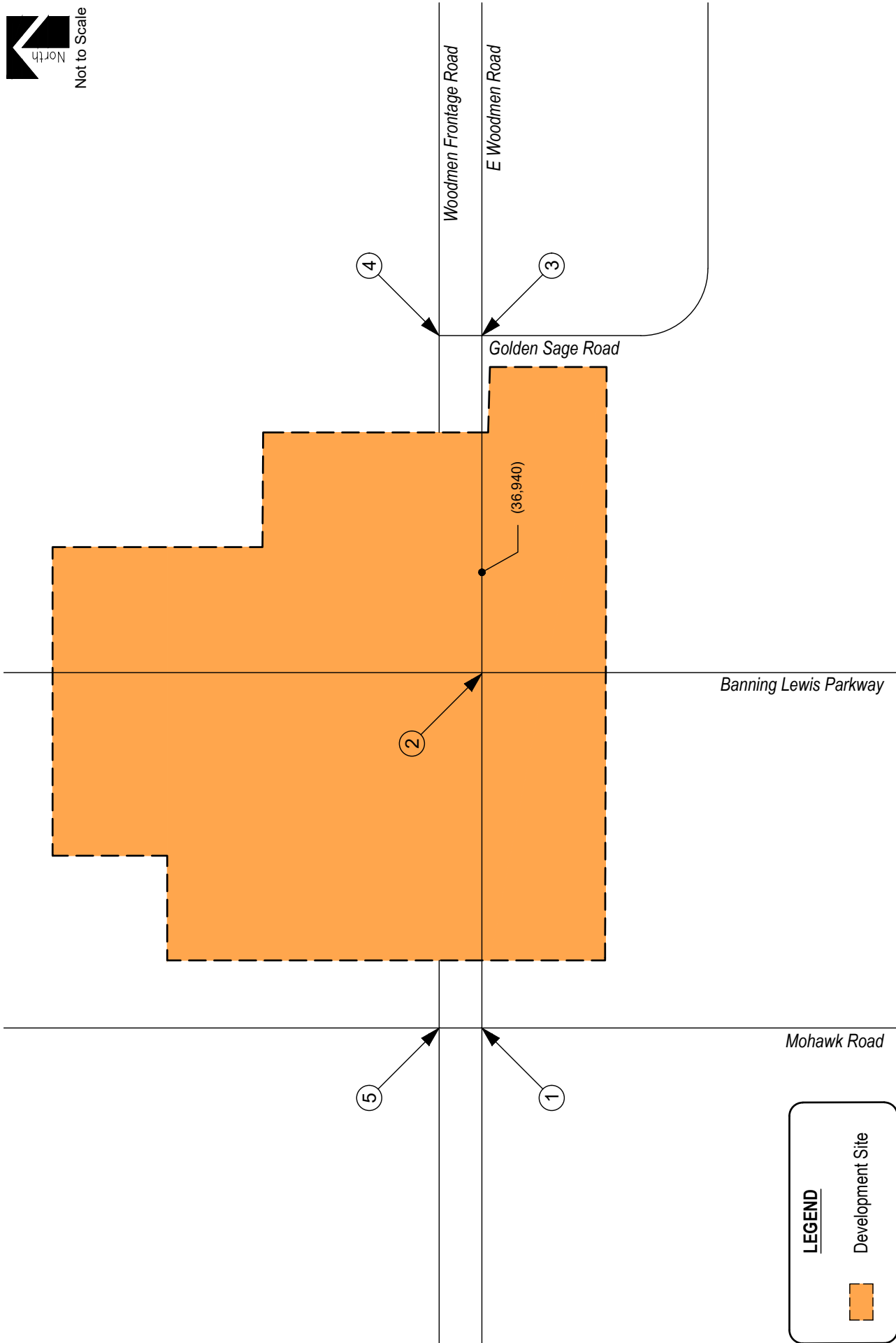
It is noted that in coordination with City Staff, and in order to provide for a conservative analysis, movements which were observed in the collected count data to experience zero volume were grown to assume a minimum of five trips during peak hours.

The study area intersections and ADT volumes are shown on Figure 3A. Newly collected intersection counts are shown in Figure 3B. Existing intersection geometry is shown in Figure 3C. Traffic count data is included for reference in Appendix A.

Existing signal timing parameters for signalized study intersections were assumed based on the existing signal head configuration and allowable movements. Timings were used throughout this study to the best extent possible in order to remain consistent with typical City signal coordination plans.



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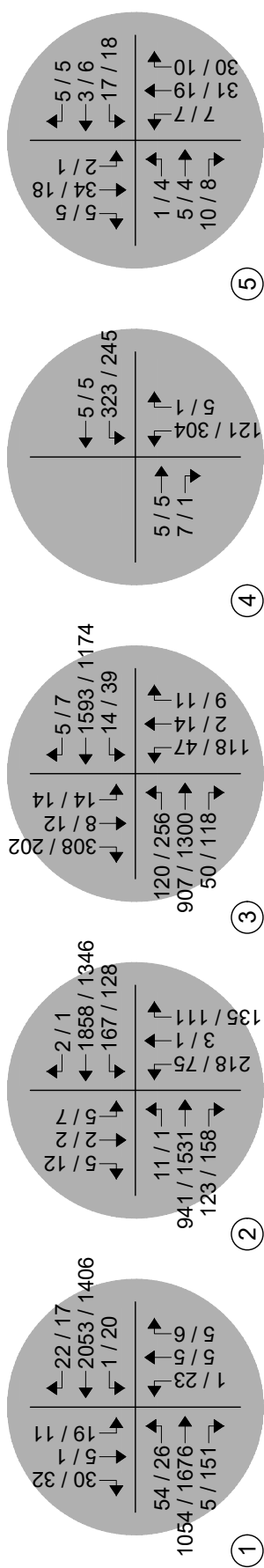


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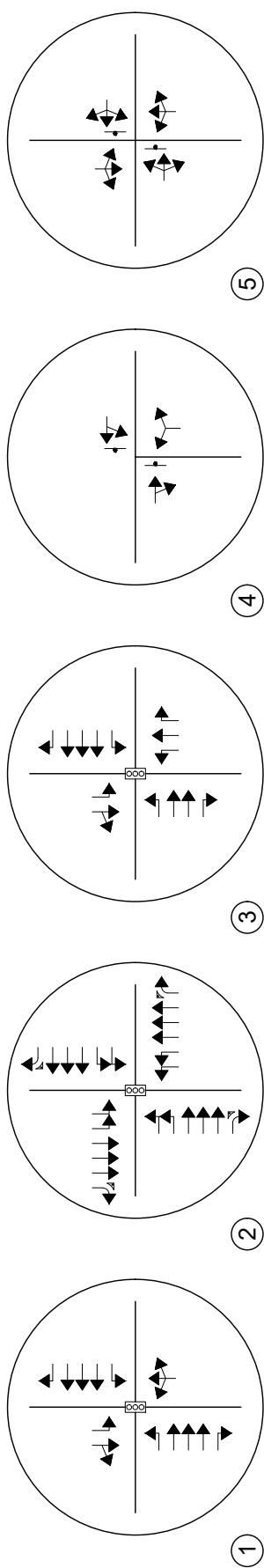
Study Intersection

Volumes



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**LEGEND**

Study Intersection

Lane Geometry

### Peak Hour Intersection Levels of Service – Existing Traffic

The Signalized and Unsignalized, and Roundabout Intersection Analysis techniques, as published in the Highway Capacity Manual (HCM), 7<sup>th</sup> Edition, by the Transportation Research Board and as incorporated into the SYNCHRO computer program, were used to analyze the study intersections for existing and future traffic conditions. These nationally accepted techniques allow for the determination of intersection level of service (LOS) based on the congestion and delay of each traffic movement and based on the volume to capacity ratio and control delay for each approach for roundabouts.

Level of service is a method of measurement used by transportation professionals to quantify a driver's perception of travel conditions that include travel time, number of stops, and total amount of stopped delay experienced on a roadway network. The HCM categorizes level of service into a range from "A" which indicates little, if any, vehicle delay, to "F" which indicates a level of operation considered unacceptable to most drivers. These levels of service grades with brief descriptions of the operating condition, for unsignalized and signalized intersections, are included for reference in Appendix B and have been used throughout this study.

The level of service analyses results for existing conditions are summarized in Table 1.

Intersection capacity worksheets developed for this study are provided in Appendix C.

**Table 1 – Intersection Capacity Analysis Summary – Existing Traffic**

| INTERSECTION<br>LANE GROUPS                                | LEVEL OF SERVICE |              |
|------------------------------------------------------------|------------------|--------------|
|                                                            | AM PEAK HOUR     | PM PEAK HOUR |
| E Woodmen Road / Mohawk Road (Signalized)                  | A (4.5)          | A (7.3)      |
| E Woodmen Road / Banning Lewis Parkway (Signalized)        | B (15.2)         | B (10.4)     |
| E Woodmen Road / Golden Sage Road (Signalized)             | B (17.0)         | B (18.7)     |
| Woodmen Frontage Road / Golden Sage Road (Stop-Controlled) |                  |              |
| Eastbound Through and Right                                | A                | C            |
| Westbound Left and Through                                 | C                | F            |
| Woodmen Frontage Road / Mohawk Road (Stop-Controlled)      |                  |              |
| Eastbound Left, Through and Right                          | A                | A            |
| Westbound Left, Through and Right                          | A                | A            |
| Northbound Left, Through and Right                         | A                | A            |
| Southbound Left, Through and Right                         | A                | A            |

Key: Signalized Intersection: Level of Service (Control Delay in sec/veh)  
 Stop-Controlled Intersection: Level of Service

## **Existing Traffic Analysis Results**

Under existing conditions, operational analysis shows that the signalized intersections of E Woodmen Road with Mohawk Road, Banning Lewis Parkway, and Golden Sage Road have overall operations at or better than LOS B during the morning and afternoon peak traffic hours.

The unsignalized intersection of Woodmen Frontage Road with Golden Sage Road has turn movement operations at or better than LOS C during the morning and afternoon peak traffic hours. Exceptions include the westbound left and through movement which operates at LOS F during the afternoon peak hour. The LOS F operation is attributed to the high number of conflicting northbound and westbound left turning volumes and the stop-controlled nature of the intersection.

The unsignalized intersection of Woodmen Frontage Road with Mohawk Road experiences turning movement operations at LOS A during the morning and afternoon peak traffic hours.

It is to be noted that it is not uncommon for unsignalized movements to or from an arterial roadway, in urban areas, to operate with noticeable delays during peak traffic hours. It is, however, likely that turn movements will operate better than the results obtained with this HCM Two-Way Stop-Control (TWSC) level of service analysis would indicate, as the HCM analysis may not accurately account for the effect of vehicle platooning and gaps caused by upstream signals.

### **III. Future Traffic Conditions Without Proposed Development**

Background traffic is the traffic projected to be on area roadways without consideration of the proposed development. Background traffic includes traffic generated by development of vacant parcels in the area.

To account for projected increases in background traffic for Years 2030 and 2045, a compounded annual growth rate was determined using historical traffic data for the surrounding area provided by CDOT's Online Transportation Information System (OTIS) along the adjacent segment of E Woodmen Road, which anticipates a 20-year growth rate between one and two percent. Therefore, in order to provide for a conservative analysis, a growth rate of two percent was applied to existing traffic volumes. This annual growth rate is also consistent with regional growth projections and the level of in-fill development expected within the area.

It is also noted that pursuant to City Staff direction, Year 2045 background traffic volumes at the E Woodmen Road intersection with Mohawk Road were adjusted to better account for expected regional growth in the area.

Pursuant to the proposed and committed area roadway improvements discussed in Section I, Year 2045 background traffic conditions assumes the widening of E Woodmen Road from four to six through lanes east of Golden Sage Road. Year 2045 assumes existing signal timing parameters for signalized study intersections with optimized intersection splits in effort to better long-term intersection performance.

The study area intersections and projected short-term background ADT volumes are shown on Figure 4A. Projected background intersection traffic volumes and intersection geometry for Year 2030 are shown in Figure 4B and Figure 4C, respectively.

The study area intersections and projected long-term background ADT volumes are shown in Figure 5A. Projected background intersection traffic volumes and intersection geometry for Year 2045 are shown in Figure 5B and Figure 5C, respectively.

### **Background Traffic Auxiliary Lane Analysis**

Auxiliary lanes for the study intersection were evaluated, using Year 2030 and 2045 background traffic volumes, and are to be based on the City's Traffic Criteria Manual (TCM)<sup>3</sup>.

By Year 2030, an evaluation of auxiliary lane requirements, pursuant to Section 8.1, Table 2, of the City's TCM, reveals that the following turn lanes may be required since the projected peak hour turn volumes exceed the City's applicable thresholds.

- Northbound left turn deceleration lane at E Woodmen Road and Mohawk Road
- Westbound left turn deceleration lane at Woodmen Frontage Road and Golden Sage Road
- Southbound right turn deceleration lane at E Woodmen Road and Golden Sage Road

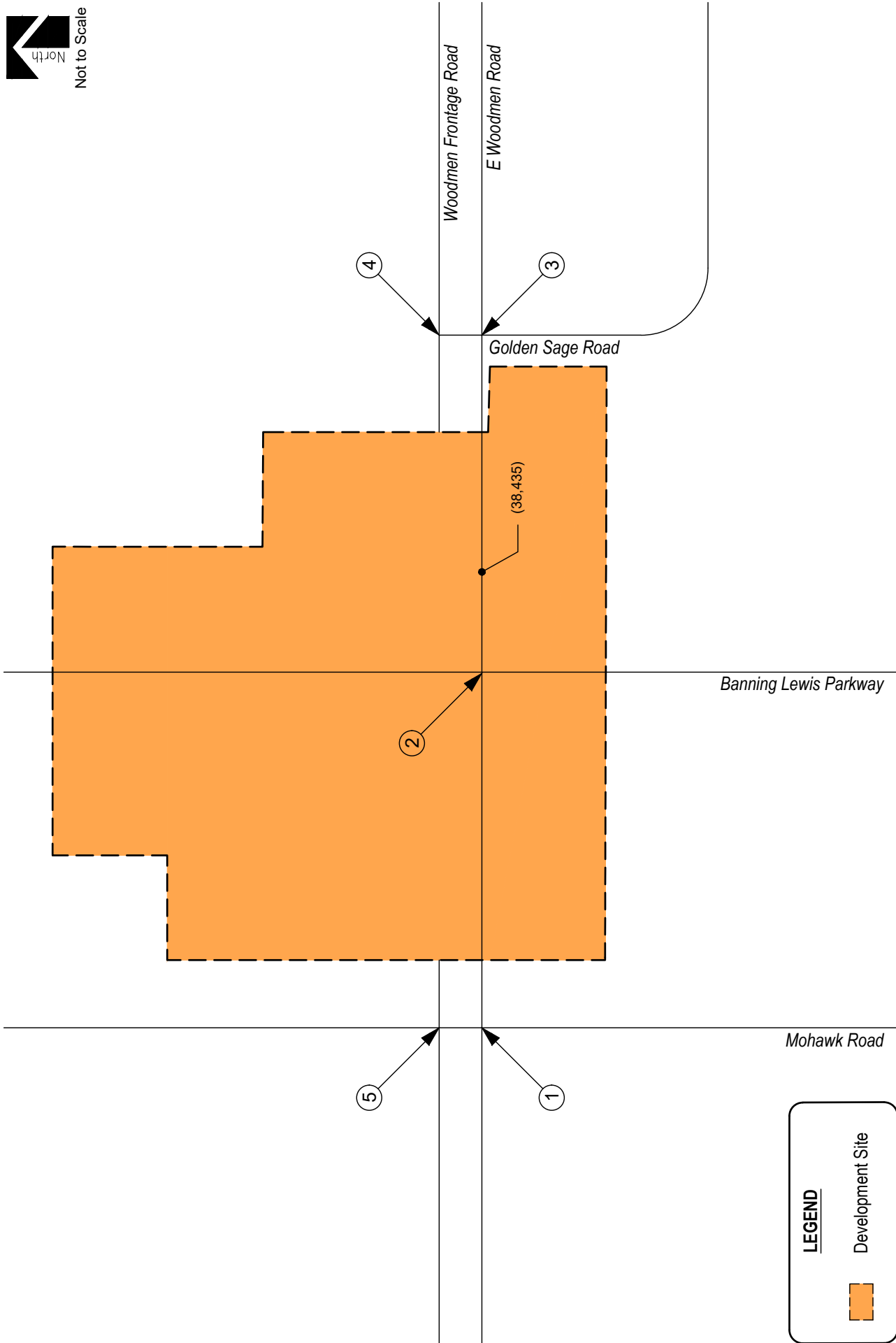
Additionally, Year 2045 background traffic volumes reveal that a westbound left turn deceleration lane at Woodmen Frontage Road and Mohawk Road may be required since the westbound left turn volume exceeds the City's threshold of 25 vehicles per hour.

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<sup>3</sup> Engineering Criteria Manual, Section III: Traffic Criteria Manual, City of Colorado Springs City Engineering, July 2010.



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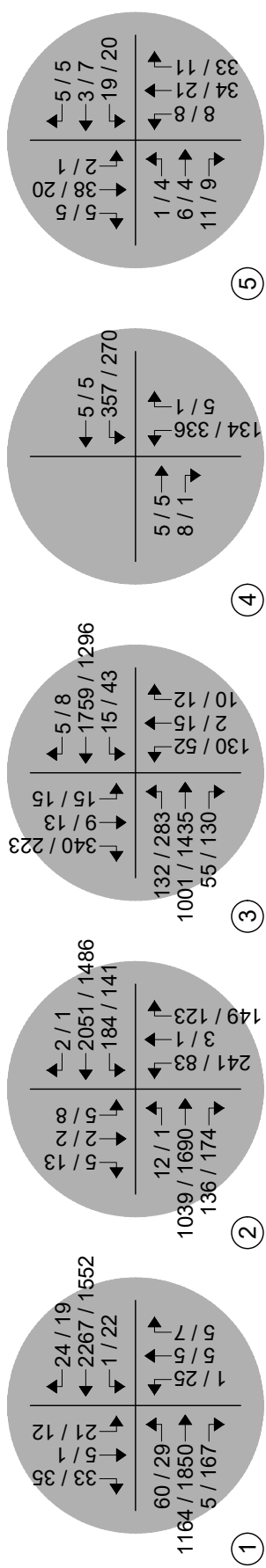


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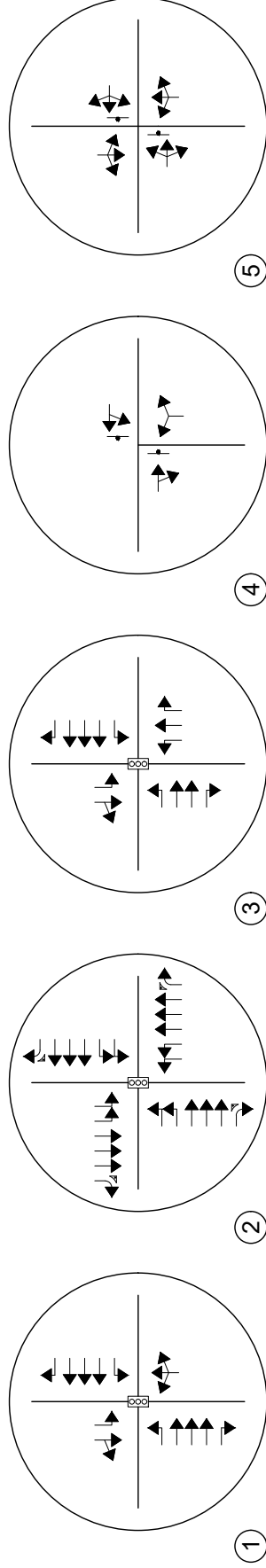
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LEGEND

Study Intersection

Volumes





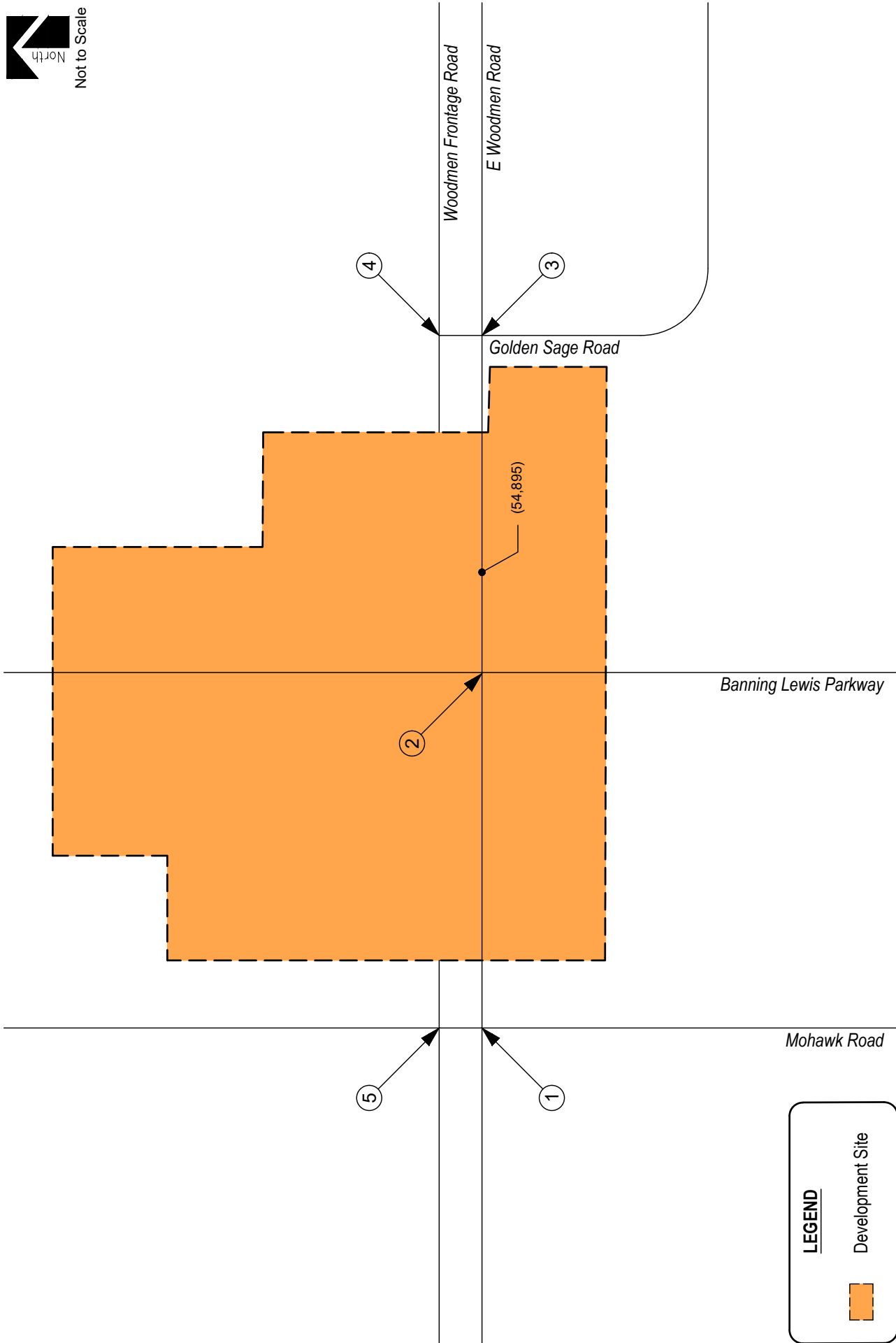
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Study Intersection

Lane Geometry

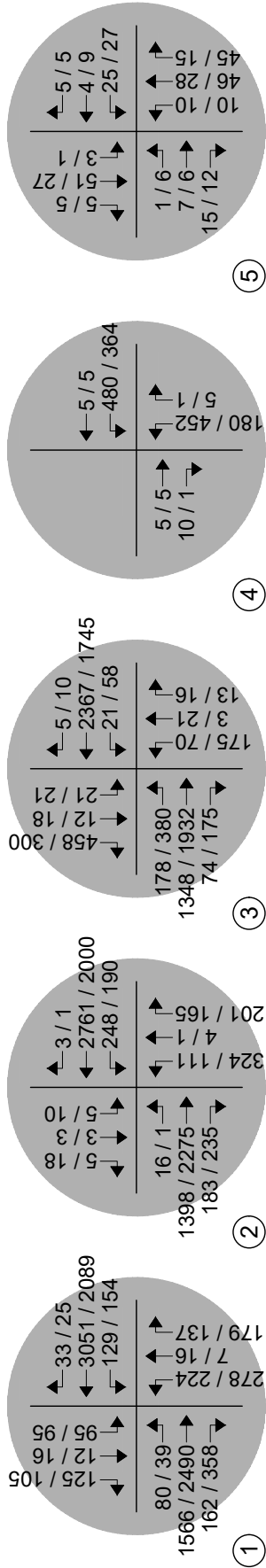


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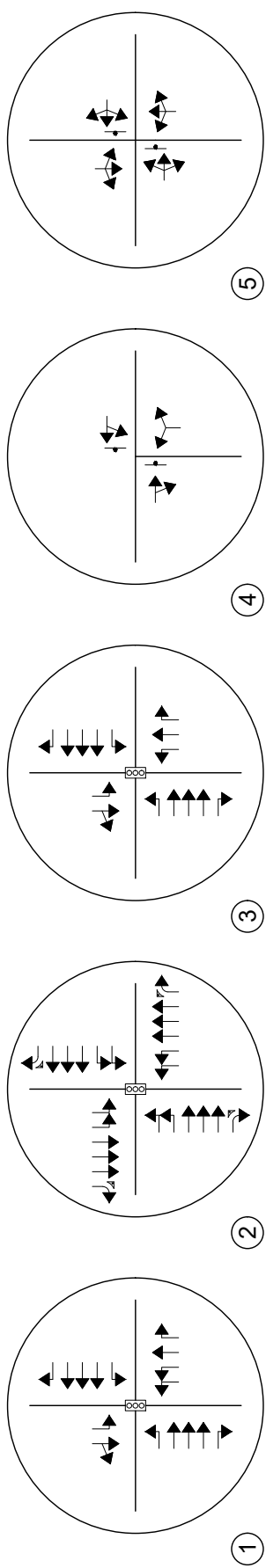
 Development Site



LEGEND

Study Intersection

Volumes





**LEGEND**

Study Intersection

Lane Geometry

### Peak Hour Intersection Levels of Service – Background Traffic

As with existing traffic conditions, the operations of study intersections were analyzed under background conditions, without the proposed development, using the SYNCHRO computer program.

Background traffic level of service analysis results for Year 2030 are listed in Table 2. Year 2045 operational results are summarized in Table 3.

Definitions of levels of service are given in Appendix B. Intersection capacity worksheets are provided in Appendix C.

**Table 2 – Intersection Capacity Analysis Summary – Background Traffic – Year 2030**

| INTERSECTION<br>LANE GROUPS                                | LEVEL OF SERVICE |              |
|------------------------------------------------------------|------------------|--------------|
|                                                            | AM PEAK HOUR     | PM PEAK HOUR |
| E Woodmen Road / Mohawk Road (Signalized)                  | A (5.7)          | A (6.8)      |
| E Woodmen Road / Banning Lewis Parkway (Signalized)        | B (16.4)         | B (12.4)     |
| E Woodmen Road / Golden Sage Road (Signalized)             | C (22.6)         | C (21.4)     |
| Woodmen Frontage Road / Golden Sage Road (Stop-Controlled) |                  |              |
| Eastbound Through and Right                                | A                | C            |
| Westbound Left and Through                                 | C                | F            |
| Woodmen Frontage Road / Mohawk Road (Stop-Controlled)      |                  |              |
| Eastbound Left, Through and Right                          | A                | A            |
| Westbound Left, Through and Right                          | A                | A            |
| Northbound Left, Through and Right                         | A                | A            |
| Southbound Left, Through and Right                         | A                | A            |

Key: Signalized Intersection: Level of Service (Control Delay in sec/veh)  
Stop-Controlled Intersection: Level of Service

### Background Traffic Analysis Results – Year 2030

Year 2030 background traffic analysis indicates that the signalized intersections of E Woodmen Road with Mohawk Road, Banning Lewis Parkway, and Golden Sage Road have overall operations at LOS A, LOS B, and LOS C, respectively, during the morning and afternoon peak traffic hours.

Unsignalized intersections within the study area operate at or better than LOS C during the AM and PM peak traffic periods. Exceptions still include the westbound left and through movement at the intersection of Woodmen Frontage Road with Golden Sage Road, which projects LOS F operations during the afternoon peak traffic hour. The LOS F operation is again attributed to the high number of conflicting northbound and westbound left turning volumes and the stop-controlled nature of the intersection.

**Table 3 – Intersection Capacity Analysis Summary – Background Traffic – Year 2045**

| INTERSECTION<br>LANE GROUPS                                | LEVEL OF SERVICE |              |
|------------------------------------------------------------|------------------|--------------|
|                                                            | AM PEAK HOUR     | PM PEAK HOUR |
| E Woodmen Road / Mohawk Road (Signalized)                  | C (25.6)         | C (34.1)     |
| E Woodmen Road / Banning Lewis Parkway (Signalized)        | C (20.5)         | B (19.9)     |
| E Woodmen Road / Golden Sage Road (Signalized)             | F (83.8)         | C (32.3)     |
| Woodmen Frontage Road / Golden Sage Road (Stop-Controlled) |                  |              |
| Eastbound Through and Right                                | A                | C            |
| Westbound Left and Through                                 | F                | F            |
| Woodmen Frontage Road / Mohawk Road (Stop-Controlled)      |                  |              |
| Eastbound Left, Through and Right                          | A                | A            |
| Westbound Left, Through and Right                          | A                | A            |
| Northbound Left, Through and Right                         | A                | A            |
| Southbound Left, Through and Right                         | A                | A            |

Key: Signalized Intersection: Level of Service (Control Delay in sec/veh)  
 Stop-Controlled Intersection: Level of Service

### Background Traffic Analysis Results – Year 2045

By Year 2045 and without the proposed development, the study intersection of E Woodmen Road with Mohawk Road experiences LOS C operations during the morning and afternoon peak traffic hours.

The signalized intersection of E Woodmen Road with Banning Lewis Parkway projects operations at LOS C during the AM peak traffic period and LOS B during the PM peak traffic period.

The signalized intersection of E Woodmen Road with Golden Sage Road is expected to have operations at LOS F during the morning peak traffic hour and LOS C during the afternoon peak traffic hour. The LOS F operation is attributed to the high volume of southbound right turns. Construction of a southbound free-flowing channelized right-turn lane is a potential solution to mitigate the LOS F operation projected. With this improvement the intersection projects operations at LOS D during the morning peak traffic hour.

The unsignalized intersections within the study area are expected to experience turning movement operations at LOS A during the AM peak traffic period and at or better than LOS C during the PM peak traffic period. Exceptions include the westbound left and through movement at the intersection of Woodmen Frontage Road with Golden Sage Road, which projects operations at LOS F during the morning and afternoon peak traffic hours. These LOS F operations are attributed to the high number of conflicting northbound and westbound left turning volumes and the stop-controlled nature of the intersection.

It is again noted that it is not uncommon for unsignalized movements to or from an arterial roadway, in urban areas, to operate with noticeable delays during peak traffic hours. It is, however, likely that turn movements will operate better than the results obtained with this HCM Two-Way Stop-Control (TWSC) level of service analysis would indicate, as the HCM analysis may not accurately account for the effect of vehicle platooning and gaps caused by upstream signals.

## IV. Proposed Project Traffic

### Trip Generation

Standard traffic generation characteristics compiled by the Institute of Transportation Engineers (ITE) in their report entitled Trip Generation Manual, 11<sup>th</sup> Edition, were applied to the proposed land use in order to estimate average daily traffic (ADT), AM Peak Hour, and PM Peak Hour vehicle trips. A vehicle trip is defined as a one-way vehicle movement from a point of origin to a point of destination.

The ITE land use codes 210 (Single-Family Detached Housing), 215 (Single-Family Attached Housing), 220 (Multifamily Housing (Low-Rise)), 411 (Public Park), 488 (Soccer Complex), 520 (Elementary School), 575 (Fire and Rescue Station), 750 (Office Park), 820 (Shopping Center (>150k)), and 821 (Shopping Plaza (40-150k)) were used for estimating trip generation because of their conservative rates and best fit to the proposed land use descriptions.

Trip generation rates used in this study are presented in Table 4.

**Table 4 – Trip Generation Rates**

| ITE<br>CODE | LAND USE                       | UNIT | TRIP GENERATION RATES |              |      |       |              |      |       |
|-------------|--------------------------------|------|-----------------------|--------------|------|-------|--------------|------|-------|
|             |                                |      | 24                    | AM PEAK HOUR |      |       | PM PEAK HOUR |      |       |
|             |                                |      | HOURLY                | ENTER        | EXIT | TOTAL | ENTER        | EXIT | TOTAL |
| 210         | Single-Family Detached Housing | DU   | 9.43                  | 0.18         | 0.53 | 0.70  | 0.59         | 0.35 | 0.94  |
| 215         | Single-Family Attached Housing | DU   | 7.20                  | 0.12         | 0.36 | 0.48  | 0.34         | 0.23 | 0.57  |
| 220         | Multifamily Housing (Low-Rise) | DU   | 6.74                  | 0.10         | 0.30 | 0.40  | 0.32         | 0.19 | 0.51  |
| 411         | Public Park                    | ACRE | 0.78                  | 0.01         | 0.01 | 0.02  | 0.06         | 0.05 | 0.11  |
| 488         | Soccer Complex                 | FLD  | 71.33                 | 0.60         | 0.39 | 0.99  | 10.84        | 5.59 | 16.43 |
| 520         | Elementary School              | STS  | 2.27                  | 0.40         | 0.34 | 0.74  | 0.07         | 0.09 | 0.16  |
| 575         | Fire and Rescue Station        | KSF  | 4.80                  | *            | *    | *     | 0.14         | 0.34 | 0.48  |
| 750         | Office Park                    | KSF  | 11.07                 | 1.18         | 0.15 | 1.33  | 0.18         | 1.12 | 1.30  |
| 820         | Shopping Center (>150K)        | KSF  | 37.01                 | 0.52         | 0.32 | 0.84  | 1.63         | 1.77 | 3.40  |
| 821         | Shopping Plaza (40-150K)       | KSF  | 67.52                 | 1.07         | 0.66 | 1.73  | 2.54         | 2.65 | 5.19  |

Key: DU = Dwelling Units. ACRE = Total Acreage. FLD = Number of Fields.  
STS = Number of Students. KSF = Thousand Square Feet Gross Floor Area.  
\* = ITE does not report significant AM peak hour generation due to the nature of the business.  
Note: All data and calculations above are subject to being rounded to nearest value.

Table 5 illustrates projected ADT, AM Peak Hour, and PM Peak Hour traffic volumes likely generated by the proposed development upon build-out and provides comparison to previously assumed land uses for the development site.

**Table 5 – Trip Generation Summary**

| ITE                                          |                                 |           |  | TOTAL TRIPS GENERATED |              |       |       |              |       |       |
|----------------------------------------------|---------------------------------|-----------|--|-----------------------|--------------|-------|-------|--------------|-------|-------|
|                                              |                                 |           |  | 24                    | AM PEAK HOUR |       |       | PM PEAK HOUR |       |       |
|                                              |                                 |           |  |                       | HOUR         | ENTER | EXIT  | TOTAL        | ENTER | EXIT  |
| CODE                                         | LAND USE                        | SIZE      |  |                       |              |       |       |              |       |       |
| <u>Site Development - Previously Assumed</u> |                                 |           |  |                       |              |       |       |              |       |       |
| 210                                          | Single-Family Housing           | 1,952 DU  |  | 18,427                | 361          | 1,083 | 1,444 | 1,218        | 715   | 1,933 |
| 220                                          | Multi-Family Housing (Low Rise) | 1,626 DU  |  | 11,902                | 172          | 575   | 747   | 573          | 337   | 910   |
| 411                                          | Public Park                     | 14 ACRE   |  | 11                    | 0            | 0     | 0     | 0            | 1     | 1     |
| 488                                          | Soccer Complex                  | 28 FLD    |  | 1,997                 | 17           | 11    | 28    | 304          | 156   | 460   |
| 520                                          | Elementary School               | 105 KSF   |  | 2,041                 | 401          | 328   | 729   | 64           | 79    | 143   |
| 530                                          | High School                     | 89 KSF    |  | 1,250                 | 213          | 87    | 300   | 47           | 40    | 87    |
| 575                                          | Fire and Rescue Station         | 26 KSF    |  | 125                   | *            | *     | *     | 4            | 9     | 13    |
| 820                                          | Shopping Center                 | 614 KSF   |  | 23,186                | 358          | 219   | 577   | 1,123        | 1,217 | 2,340 |
| Previously Assumed Total:                    |                                 |           |  | 58,940                | 1,522        | 2,305 | 3,827 | 3,333        | 2,553 | 5,887 |
| <u>Site Development - Proposed</u>           |                                 |           |  |                       |              |       |       |              |       |       |
| 210                                          | Single-Family Detached Housing  | 1,143 DU  |  | 10,780                | 200          | 600   | 800   | 677          | 398   | 1,075 |
| 215                                          | Single-Family Attached Housing  | 710 DU    |  | 5,114                 | 85           | 256   | 341   | 239          | 166   | 405   |
| 220                                          | Multifamily Housing (Low-Rise)  | 963 DU    |  | 6,489                 | 92           | 293   | 385   | 309          | 182   | 491   |
| 411                                          | Public Park                     | 12.3 ACRE |  | 10                    | 0            | 0     | 0     | 0            | 1     | 1     |
| 488                                          | Soccer Complex                  | 28 FLD    |  | 1,997                 | 17           | 11    | 28    | 304          | 156   | 460   |
| 520                                          | Elementary School               | 1,100 STS |  | 2,497                 | 440          | 374   | 814   | 81           | 95    | 176   |
| 575                                          | Fire and Rescue Station         | 26.0 KSF  |  | 125                   | *            | *     | *     | 4            | 9     | 13    |
| 750                                          | Office Park                     | 259 KSF   |  | 2,864                 | 306          | 38    | 344   | 47           | 289   | 336   |
| 820                                          | Shopping Center (>150K)         | 772 KSF   |  | 28,567                | 402          | 246   | 648   | 1,260        | 1,365 | 2,624 |
| 821                                          | Shopping Plaza (40-150K)        | 143 KSF   |  | 9,647                 | 153          | 94    | 247   | 363          | 378   | 742   |
| Proposed Total:                              |                                 |           |  | 68,091                | 1,696        | 1,912 | 3,608 | 3,284        | 3,038 | 6,322 |
| Difference Total:                            |                                 |           |  | 9,151                 | 174          | -393  | -219  | -49          | 485   | 436   |

Key: DU = Dwelling Units. ACRE = Total Acreage. FLD = Number of Fields.  
STS = Number of Students. KSF = Thousand Square Feet Gross Floor Area.  
\* = ITE does not report significant AM peak hour generation due to the nature of the business.  
Note: All data and calculations above are subject to being rounded to nearest value.

Upon build-out, Table 5 illustrates that the proposed development has the potential to generate approximately 68,091 daily vehicle trips with 3,608 of those occurring during the morning peak hour and 6,322 during the afternoon peak hour. Compared to the previously assumed land uses, this represents a potential increase in site traffic generation of approximately 9,151 daily trips with a decrease of approximately 219 trips during the morning peak hour and an increase of 436 trips during the afternoon peak hour.

## Adjustments to Trip Generation Rates

It is considered likely that a mixed-use development of this type will attract trips from within area land uses. Based on the land uses proposed with this development it was assumed that overall averages of approximately 10% of total trips will be captured internally.

Table 6 illustrates projected ADT, AM Peak Hour, and PM Peak Hour traffic volumes likely generated by the proposed development upon build-out with reductions applied due to internal capture.

**Table 6 – Trip Generation Summary with Reductions**

| ITE<br><br>CODELAND USESIZE                  |                                 |           |        | TOTAL TRIPS GENERATED |              |       |       |              |       |       |
|----------------------------------------------|---------------------------------|-----------|--------|-----------------------|--------------|-------|-------|--------------|-------|-------|
|                                              |                                 |           |        | 24<br>HOUR            | AM PEAK HOUR |       |       | PM PEAK HOUR |       |       |
|                                              |                                 |           |        |                       | ENTER        | EXIT  | TOTAL | ENTER        | EXIT  | TOTAL |
| <u>Site Development - Previously Assumed</u> |                                 |           |        |                       |              |       |       |              |       |       |
| 210                                          | Single-Family Housing           | 1,952 DU  | 18,427 | 361                   | 1,083        | 1,444 | 1,218 | 715          | 1,933 |       |
| 220                                          | Multi-Family Housing (Low Rise) | 1,626 DU  | 11,902 | 172                   | 575          | 747   | 573   | 337          | 910   |       |
| 411                                          | Public Park                     | 14 ACRE   | 11     | 0                     | 0            | 0     | 0     | 1            | 1     |       |
| 488                                          | Soccer Complex                  | 28 FLD    | 1,997  | 17                    | 11           | 28    | 304   | 156          | 460   |       |
| 520                                          | Elementary School               | 105 KSF   | 2,041  | 401                   | 328          | 729   | 64    | 79           | 143   |       |
| 530                                          | High School                     | 89 KSF    | 1,250  | 213                   | 87           | 300   | 47    | 40           | 87    |       |
| 575                                          | Fire and Rescue Station         | 26 KSF    | 125    | *                     | *            | *     | 4     | 9            | 13    |       |
| 820                                          | Shopping Center                 | 614 KSF   | 23,186 | 358                   | 219          | 577   | 1,123 | 1,217        | 2,340 |       |
| Internal Capture Reduction:                  |                                 |           |        | 10%                   | 10%          | 10%   | 10%   | 10%          | 10%   |       |
| Previously Assumed Total:                    |                                 |           |        | 53,046                | 1,370        | 2,074 | 3,444 | 3,000        | 2,298 | 5,298 |
| <u>Site Development - Proposed</u>           |                                 |           |        |                       |              |       |       |              |       |       |
| 210                                          | Single-Family Detached Housing  | 1,145 DU  | 10,797 | 200                   | 601          | 802   | 678   | 398          | 1,076 |       |
| 215                                          | Single-Family Attached Housing  | 712 DU    | 5,126  | 85                    | 256          | 342   | 239   | 166          | 406   |       |
| 220                                          | Multifamily Housing (Low-Rise)  | 964 DU    | 6,497  | 93                    | 293          | 386   | 310   | 182          | 492   |       |
| 411                                          | Public Park                     | 12.3 ACRE | 10     | 0                     | 0            | 0     | 0     | 1            | 1     |       |
| 488                                          | Soccer Complex                  | 28 FLD    | 1,997  | 17                    | 11           | 28    | 304   | 156          | 460   |       |
| 520                                          | Elementary School               | 1,100 STS | 2,497  | 440                   | 374          | 814   | 81    | 95           | 176   |       |
| 575                                          | Fire and Rescue Station         | 26.0 KSF  | 125    | *                     | *            | *     | 4     | 9            | 13    |       |
| 750                                          | Office Park                     | 259 KSF   | 2,864  | 306                   | 38           | 344   | 47    | 289          | 336   |       |
| 820                                          | Shopping Center (>150K)         | 770 KSF   | 28,498 | 401                   | 246          | 647   | 1,257 | 1,361        | 2,618 |       |
| 821                                          | Shopping Plaza (40-150K)        | 143 KSF   | 9,647  | 153                   | 94           | 247   | 363   | 378          | 742   |       |
| Internal Capture Reduction:                  |                                 |           |        | 10%                   | 10%          | 10%   | 10%   | 10%          | 10%   |       |
| Proposed Total:                              |                                 |           |        | 61,253                | 1,526        | 1,722 | 3,248 | 2,954        | 2,733 | 5,687 |
| Difference Total:                            |                                 |           |        | 8,207                 | 156          | -352  | -196  | -46          | 435   | 389   |

Key: DU = Dwelling Units. ACRE = Total Acreage. FLD = Number of Fields.  
 STS = Number of Students. KSF = Thousand Square Feet Gross Floor Area.  
 \* = ITE does not report significant AM peak hour generation due to the nature of the business.  
 Note: All data and calculations above are subject to being rounded to nearest value.

Upon build-out and with consideration for internal capture trip reductions, Table 6 illustrates that the proposed development has the potential to generate approximately 61,253 daily trips with 3,248 of those occurring during the morning peak hour and 5,687 during the afternoon peak hour. Compared to the previously assumed land uses, this represents a potential increase in site traffic generation of approximately 8,207 daily trips with a decrease of approximately 196 trips during the morning peak hour and an increase of 389 trips during the afternoon peak hour.

### **Trip Distribution**

The overall directional distribution of site-generated traffic was determined based on the location of development site within the City, proposed and existing area land uses, allowed turning movements, and available roadway network.

Overall trip distribution patterns for the development are shown on Figure 6.

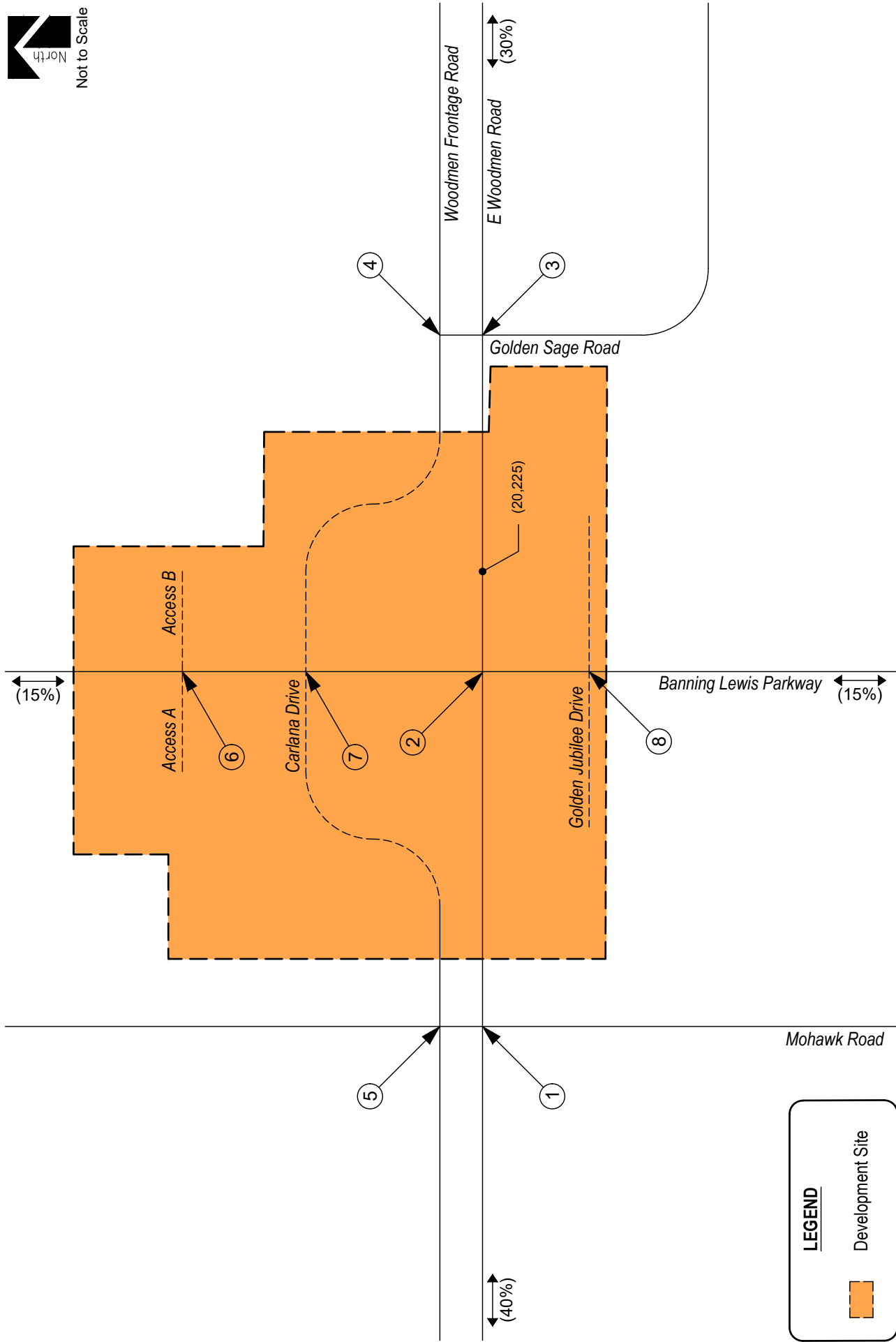
### **Trip Assignment**

Traffic assignment is how generated and distributed vehicle trips are expected to be loaded onto the available roadway network.

Applying trip distribution patterns to site-generated traffic provides the overall site-generated trip assignments shown on Figure 7



Not to Scale

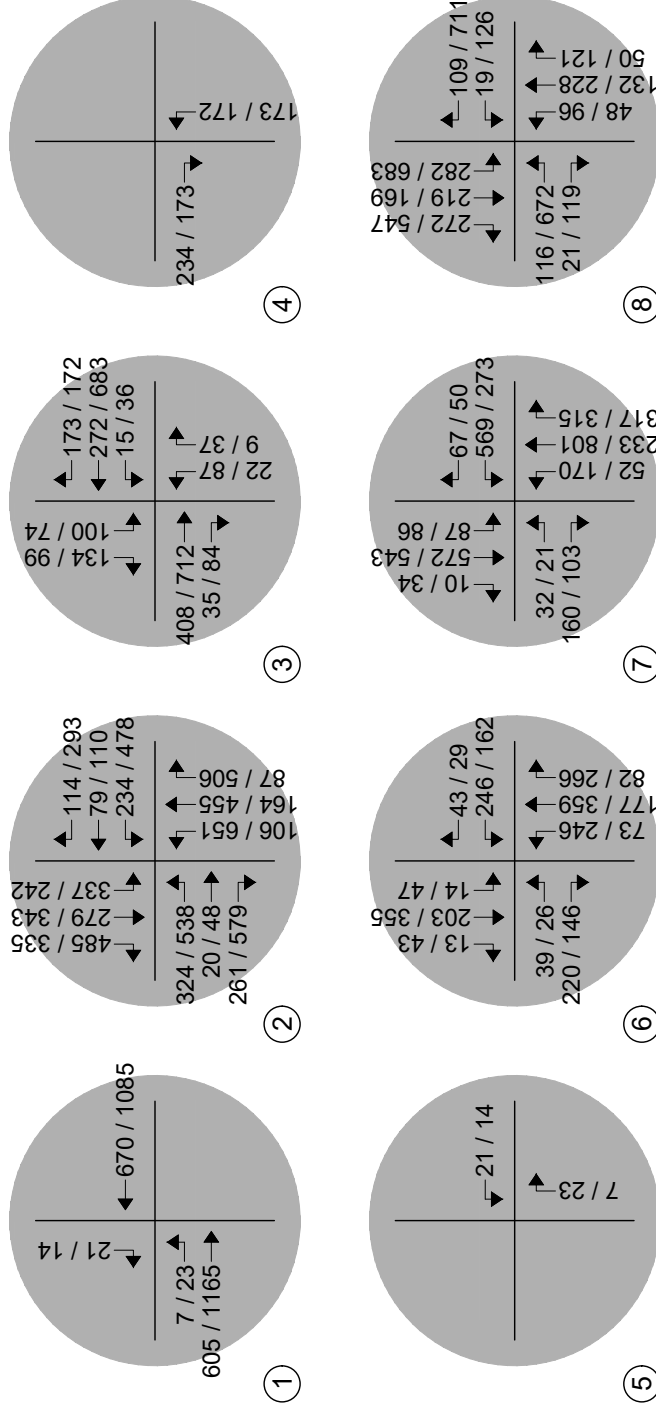


**Figure 6**  
**SITE DEVELOPMENT DISTRIBUTION**  
(%) : Overall  
(ADT) : Average Daily Traffic





Not to Scale



**LEGEND**

Study Intersection Volumes

## **V. Future Traffic Conditions With Proposed Development**

Total traffic is the traffic projected to be on area roadways with consideration of the proposed development. Total traffic includes background traffic projections for Years 2030 and 2045 with consideration of site-generated traffic. For analysis purposes, it was assumed that development construction would be completed by end of Year 2030.

Pursuant to area roadway improvement discussions provided in Section III, Year 2030 and Year 2045 total traffic conditions assume no additional roadway improvements to accommodate regional transportation demands. Roadway improvements associated with site development are expected to be limited to site access and frontage as required by the governing agency.

The study area intersections and projected short-term total ADT volumes are shown in Figure 8A. Projected Year 2030 total intersection traffic volumes and intersection geometry are shown in Figure 8B and Figure 8C, respectively.

The study area intersections and projected long-term total ADT volumes are shown in Figure 9A. Figure 9B and Figure 9C shows projected total intersection traffic volumes and intersection geometry for Year 2045, respectively.

### **Total Traffic Auxiliary Lane Analysis**

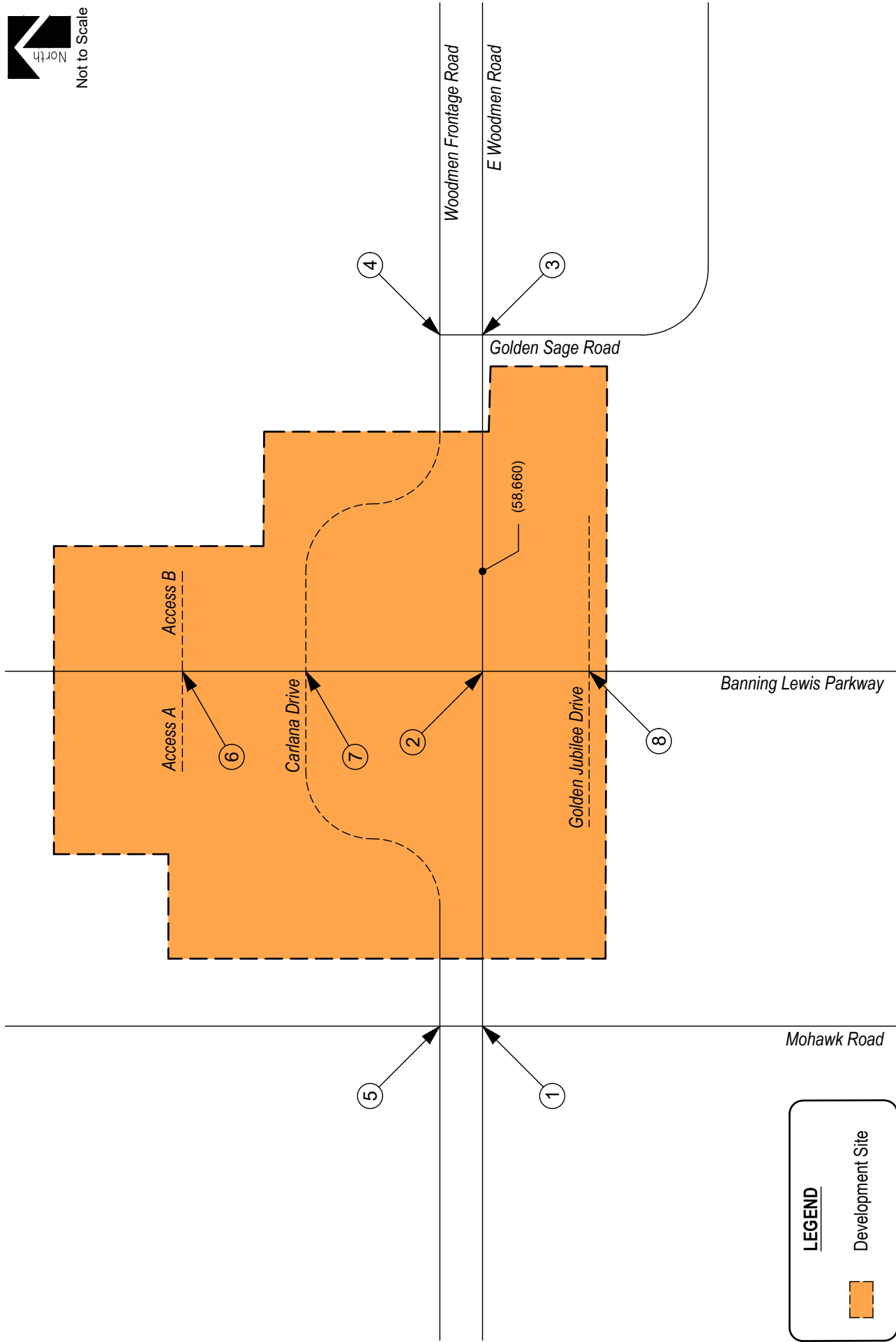
Auxiliary lanes for the study intersections were evaluated and are to be based on the City's TCM.

Considering development build-out, an evaluation of auxiliary lane requirements, pursuant to Section 8.1, Table 2 of the City's TCM, reveals that the following turn lanes may be required since the development's projected peak hour turn volumes exceed the City's applicable thresholds.

- Eastbound right turn deceleration lane at Woodmen Frontage Road and Golden Sage Road
- Southbound right turn deceleration lane at E Woodmen Road and Mohawk Road
- Northbound right turn deceleration lane at Woodmen Frontage Road and Mohawk Road

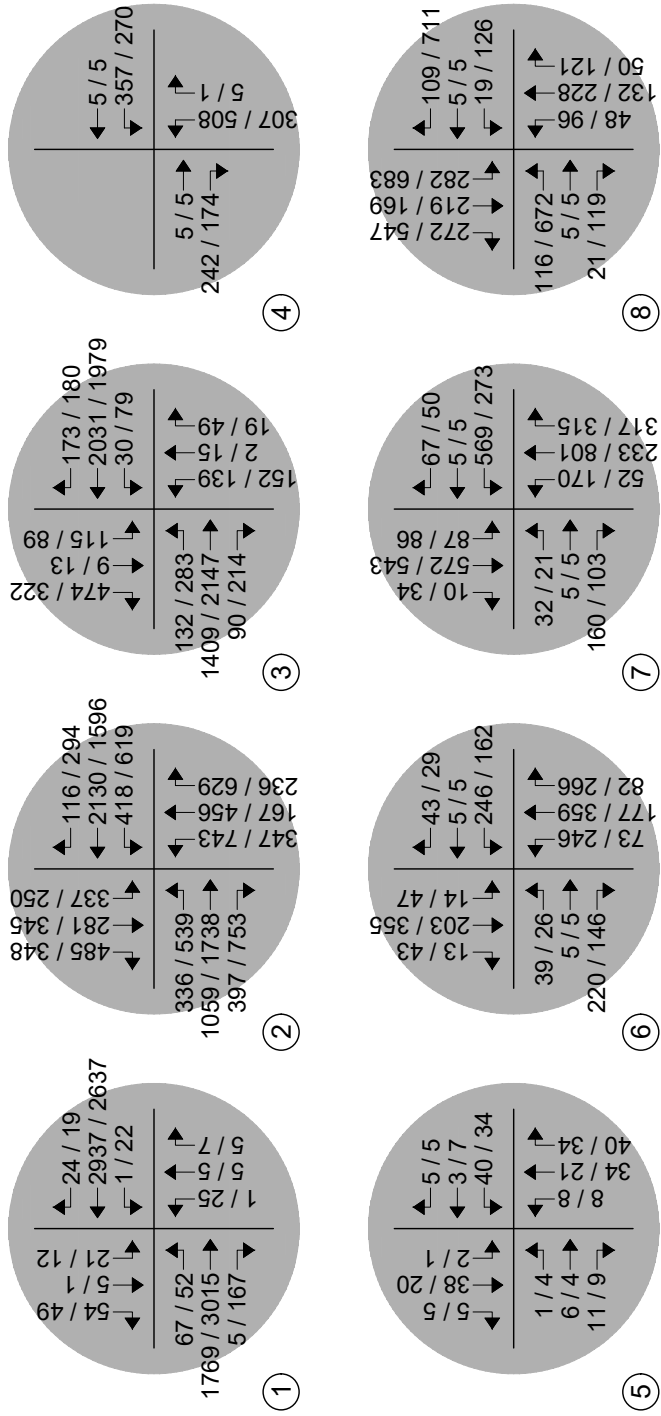


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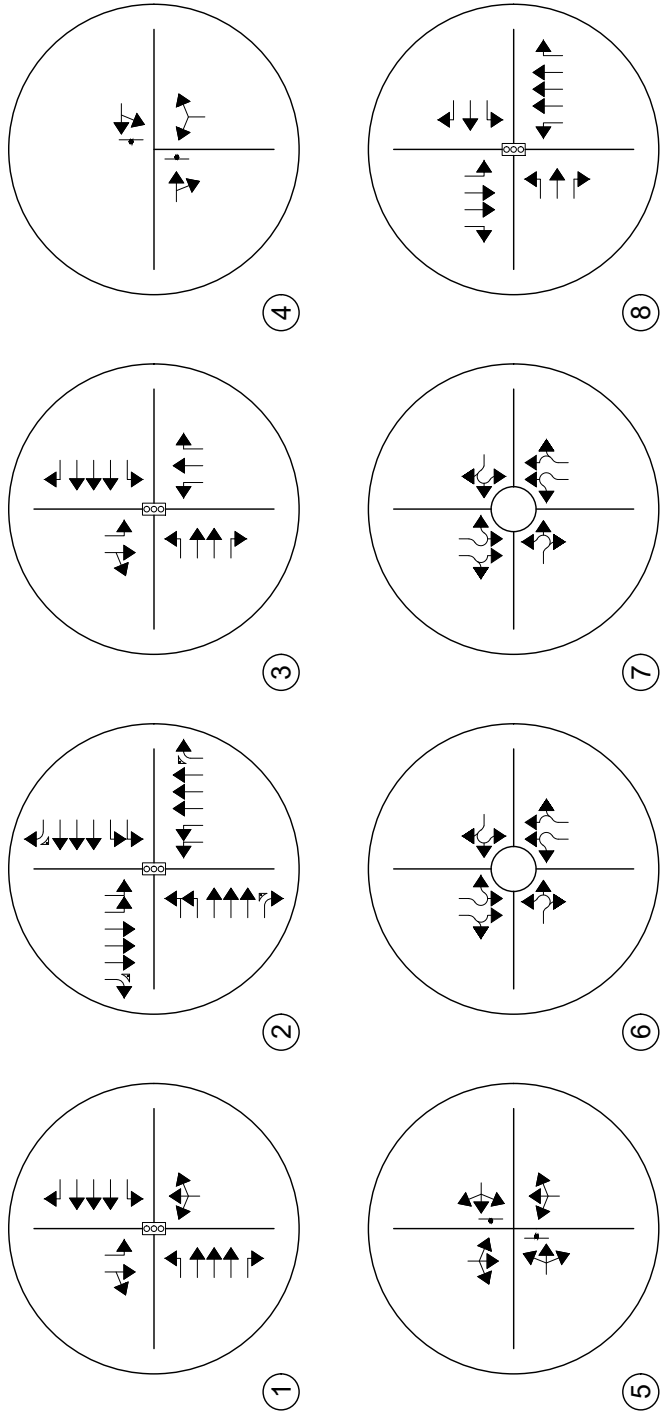
**LEGEND**

 Development Site



**LEGEND**

Study Intersection  
Volumes



○

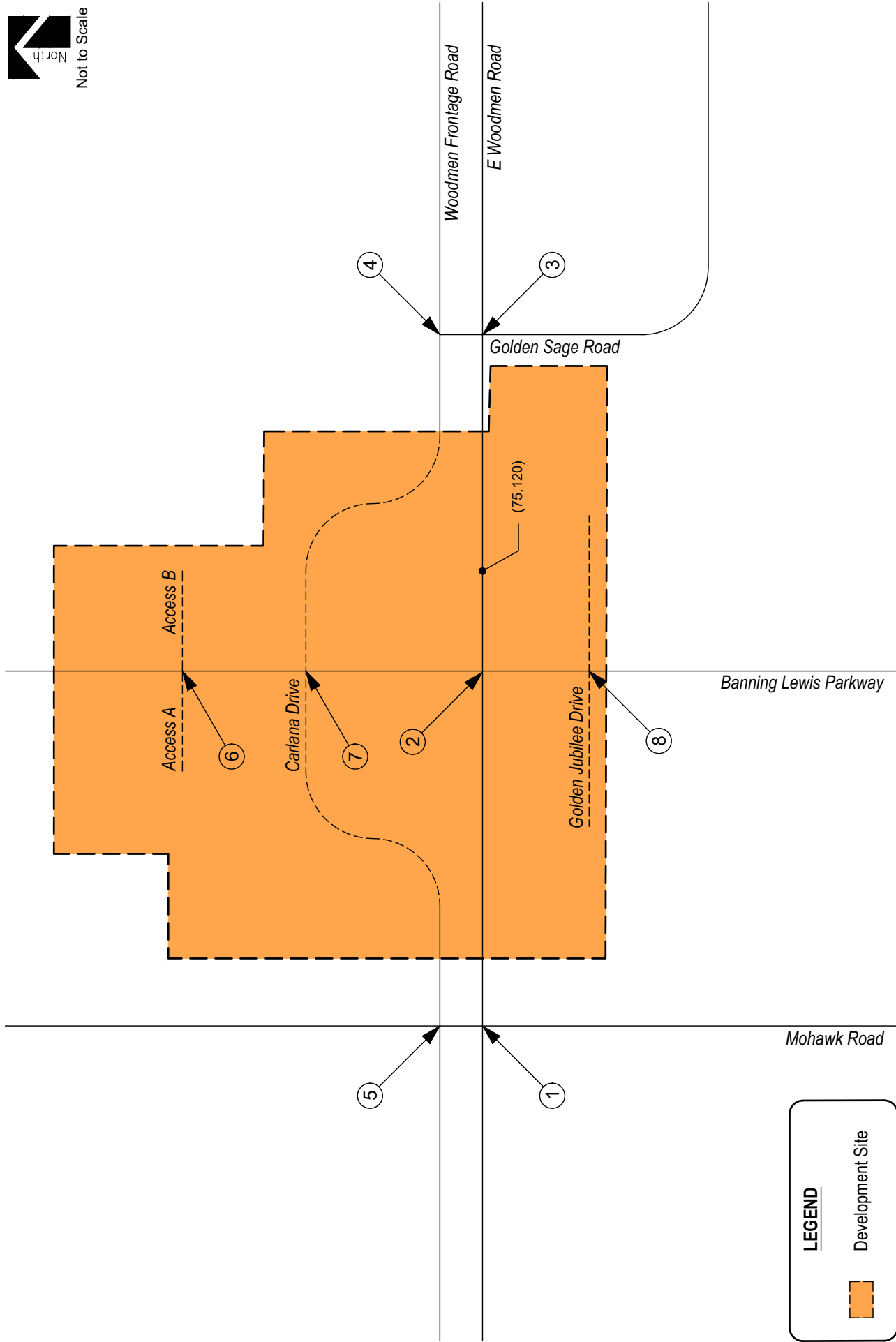
**LEGEND**

Study Intersection

Lane Geometry

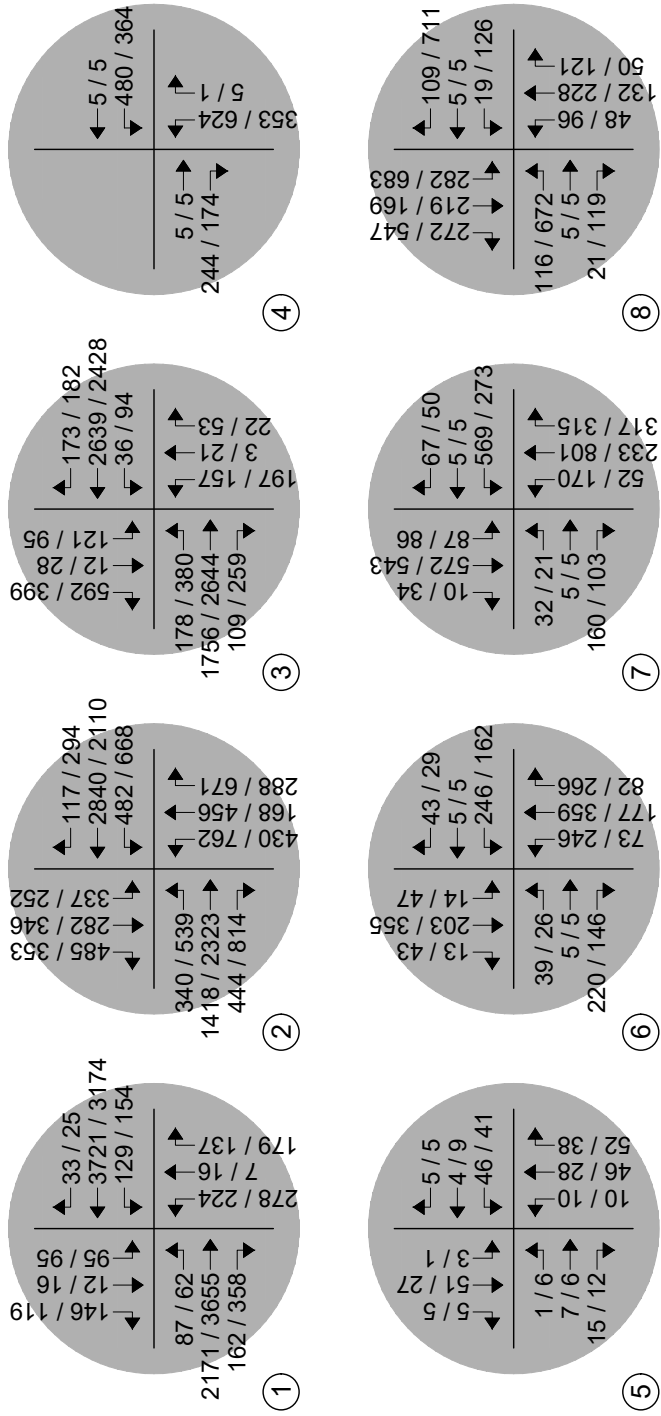


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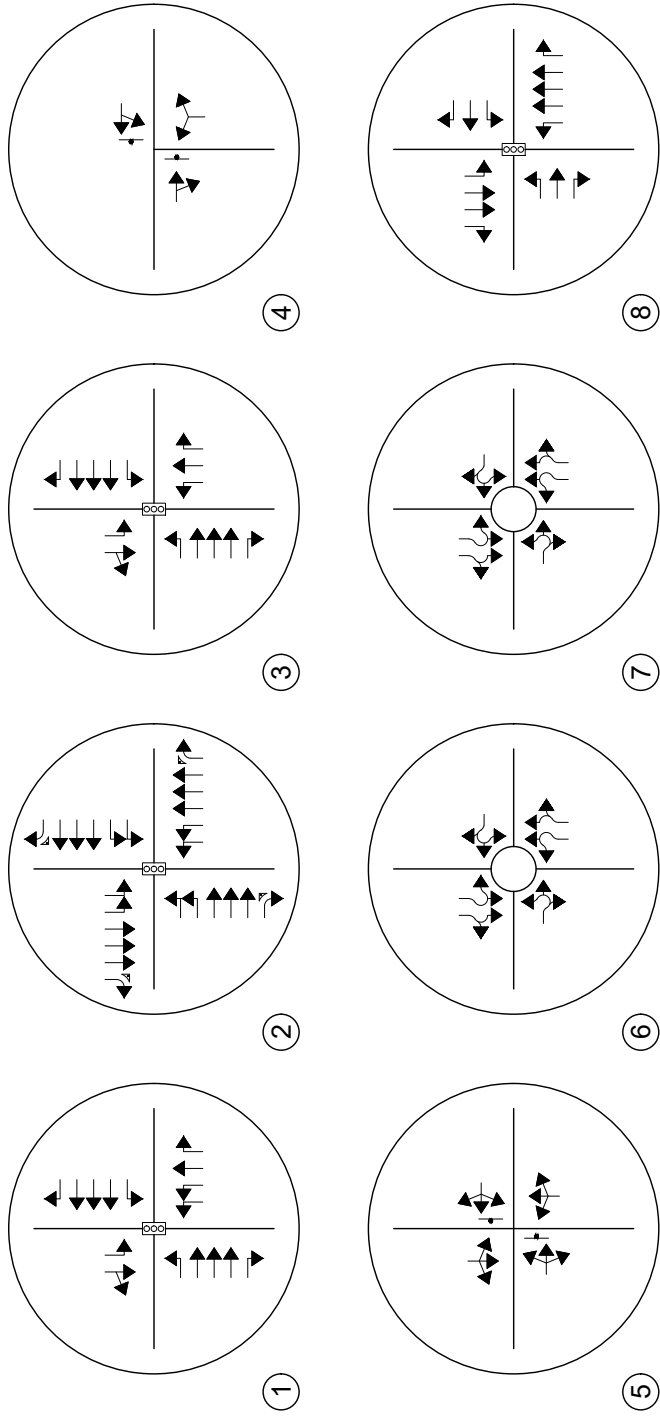
**LEGEND**

 Development Site



**LEGEND**

Study Intersection  
Volumes



LEGEND

○

Study Intersection

Lane Geometry

### Peak Hour Intersection Levels of Service – Total Traffic

As with background traffic, the operations of the study intersections were analyzed under projected total traffic conditions using the SYNCHRO computer program. The analyses and procedures were performed in accordance with the latest HCM and are based upon the worst-case conditions that occur during a typical weekday upon build-out of site development and analyzed land uses. Therefore, study intersections are likely to operate with traffic conditions better than those described within this study, which represent the peak hours of weekday operations only.

Total traffic level of service analysis results for Years 2030 and 2045 are summarized in Table 7 and Table 8, respectively.

Definitions of levels of service are given in Appendix B. Intersection capacity worksheets are provided in Appendix C.

**Table 7 – Intersection Capacity Analysis Summary – Total Traffic – Year 2030**

| INTERSECTION<br>LANE GROUPS                                | LEVEL OF SERVICE |              |
|------------------------------------------------------------|------------------|--------------|
|                                                            | AM PEAK HOUR     | PM PEAK HOUR |
| E Woodmen Road / Mohawk Road (Signalized)                  | A (7.9)          | A (6.4)      |
| E Woodmen Road / Banning Lewis Parkway (Signalized)        | C (34.8)         | E (57.7)     |
| E Woodmen Road / Golden Sage Road (Signalized)             | D (39.1)         | E (58.1)     |
| Banning Lewis Parkway / Golden Jubilee Drive (Signalized)  | A (7.7)          | D (50.4)     |
| Woodmen Frontage Road / Golden Sage Road (Stop-Controlled) |                  |              |
| Eastbound Through and Right                                | A                | A            |
| Westbound Left and Through                                 | F                | F            |
| Woodmen Frontage Road / Mohawk Road (Stop-Controlled)      |                  |              |
| Eastbound Left, Through and Right                          | A                | A            |
| Westbound Left, Through and Right                          | A                | A            |
| Northbound Left, Through and Right                         | A                | A            |
| Southbound Left, Through and Right                         | A                | A            |
| Banning Lewis Parkway / Access A / Access B (Roundabout)   |                  |              |
| Eastbound Left, Through and Right                          | A                | A            |
| Westbound Left, Through and Right                          | A                | A            |
| Northbound Left and Through                                | A                | A            |
| Northbound Through and Right                               | A                | A            |
| Southbound Left and Through                                | A                | A            |
| Southbound Through and Right                               | A                | A            |
| Banning Lewis Parkway / Carlana Drive (Roundabout)         |                  |              |
| Eastbound Left, Through and Right                          | C                | A            |
| Westbound Left, Through and Right                          | B                | C            |
| Northbound Left and Through                                | A                | A            |
| Northbound Through and Right                               | A                | A            |
| Southbound Left and Through                                | B                | A            |
| Southbound Through and Right                               | B                | A            |

Key: Signalized Intersection: Level of Service (Control Delay in sec/veh)

Roundabout Intersection: Level of Service

Stop-Controlled Intersection: Level of Service

**Table 8 – Intersection Capacity Analysis Summary – Total Traffic – Year 2045**

| INTERSECTION<br>LANE GROUPS                                | LEVEL OF SERVICE |              |
|------------------------------------------------------------|------------------|--------------|
|                                                            | AM PEAK HOUR     | PM PEAK HOUR |
| E Woodmen Road / Mohawk Road (Signalized)                  | D (46.3)         | D (40.5)     |
| E Woodmen Road / Banning Lewis Parkway (Signalized)        | E (66.5)         | F (96.6)     |
| E Woodmen Road / Golden Sage Road (Signalized)             | F (141.2)        | E (65.3)     |
| Banning Lewis Parkway / Golden Jubilee Drive (Signalized)  | A (8.1)          | D (54.8)     |
| Woodmen Frontage Road / Golden Sage Road (Stop-Controlled) |                  |              |
| Eastbound Through and Right                                | A                | B            |
| Westbound Left and Through                                 | F                | F            |
| Woodmen Frontage Road / Mohawk Road (Stop-Controlled)      |                  |              |
| Eastbound Left, Through and Right                          | A                | A            |
| Westbound Left, Through and Right                          | A                | A            |
| Northbound Left, Through and Right                         | A                | A            |
| Southbound Left, Through and Right                         | A                | A            |
| Banning Lewis Parkway / Access A / Access B (Roundabout)   |                  |              |
| Eastbound Left, Through and Right                          | A                | A            |
| Westbound Left, Through and Right                          | A                | A            |
| Northbound Left and Through                                | A                | A            |
| Northbound Through and Right                               | A                | A            |
| Southbound Left and Through                                | A                | A            |
| Southbound Through and Right                               | A                | A            |
| Banning Lewis Parkway / Carlana Drive (Roundabout)         |                  |              |
| Eastbound Left, Through and Right                          | C                | A            |
| Westbound Left, Through and Right                          | B                | C            |
| Northbound Left and Through                                | A                | A            |
| Northbound Through and Right                               | A                | A            |
| Southbound Left and Through                                | B                | A            |
| Southbound Through and Right                               | B                | A            |

Key: Signalized Intersection: Level of Service (Control Delay in sec/veh)

Roundabout Intersection: Level of Service

Stop-Controlled Intersection: Level of Service

### Total Traffic Analysis Results Upon Development Build-Out

Table 8 illustrates how, by Year 2045 and upon development build-out, the signalized intersection of E Woodmen Road with Mohawk Road shows an overall LOS D operation during the morning and afternoon peak traffic hours.

The signalized intersection of E Woodmen Road with Banning Lewis Parkway is expected to provide overall operations at LOS E during the morning peak traffic hour and LOS F during the afternoon peak traffic hour. The LOS E and F operations are attributed to the through traffic volumes along both E Woodmen Road and Banning Lewis Parkway as well as the high volume of left turn vehicles causing most left turning movements to be over capacity. It is noted that these projected operations are also consistent with adjacent traffic studies prepared for the overall area. Considering the conceptual nature of the proposed development, potential mitigations for the LOS E and F operations may be subject to change as further development of the overall area occurs. It is also noted that the analysis provided does not account for all potential access locations serving individual parcels. As such, actual volumes which may pass through this intersection are likely to be less than indicated.

The signalized intersection of E Woodmen Road with Golden Sage Road is projected to experience LOS F operations during the AM peak traffic period and LOS E operations during the PM peak traffic period. As discussed in Section III, construction of a southbound free-flowing channelized right-turn lane is a potential solution to mitigate the LOS E and LOS F operations projected. With this improvement the intersection projects operations at or better than LOS D during both peak traffic hours.

The signalized intersection of Banning Lewis Parkway with Golden Jubilee Drive expects overall operations at LOS A during the AM peak traffic hour and LOS D during the PM peak traffic hour.

The stop-controlled intersections within the study area project turning movement operations at LOS A during the morning peak traffic hour and at or better than LOS B during the afternoon peak traffic hour. Exceptions still include the westbound left and through movement at the intersection of Woodmen Frontage Road with Golden Sage Road, which is expected to experience operations at LOS F during the morning and afternoon peak traffic hours. These LOS F operations are attributed to the high number of conflicting northbound and westbound left turning volumes and the stop-controlled nature of the intersection.

The roundabout intersections within the study are predicted to experience operations at or better than LOS C during the morning and afternoon peak traffic hours.

It is once again noted that it is not uncommon for unsignalized movements to or from an arterial roadway, in urban areas, to operate with noticeable delays during peak traffic hours. It is, however, likely that turn movements will operate better than the results obtained with this HCM Two-Way Stop-Control (TWSC) level of service analysis would indicate, as the HCM analysis may not accurately account for the effect of vehicle platooning and gaps caused by upstream signals.

## **VI. Project Impacts**

It is emphasized that the analyses and procedures described in this study were performed in accordance with the latest HCM and are based upon the worst-case conditions that occur during a typical weekday upon build-out of site development and analyzed land uses. Therefore, study intersections are likely to operate with traffic conditions better than those described within this study, which represent the peak hours of weekday operations only.

### **Queue Length Analysis**

Queue lengths for the study intersections were analyzed using Year 2045 background and total traffic conditions. The analysis yields estimate of 95<sup>th</sup> percentile queue lengths, which have only a five percent probability of being exceeded during the analysis time period. An average vehicle length of 25 feet was assumed. Queue lengths were modeled and are included with the Synchro worksheets in Appendix C.

In general, auxiliary lane lengths are recommended to accommodate City's minimum turn lane lengths or accommodate long-term 95<sup>th</sup> percentile vehicle queues, whichever is greater.

Table 9 summarizes the 95<sup>th</sup> percentile queue results in comparison to the projected storage requirements for turn movements within study area for Year 2045.

**Table 9 – Turn Lane Queues and Storage Requirements – Year 2045**

| Intersection                                 | Turn Movement | Existing Turn Lane Length (feet) | Background 2045     |                     | Total 2045          |                     | Recommended Turn Lane Length (feet) |         |
|----------------------------------------------|---------------|----------------------------------|---------------------|---------------------|---------------------|---------------------|-------------------------------------|---------|
|                                              |               |                                  | AM Peak Hour (feet) | PM Peak Hour (feet) | AM Peak Hour (feet) | PM Peak Hour (feet) |                                     |         |
| Signalized Intersections                     |               |                                  |                     |                     |                     |                     |                                     |         |
| E Woodmen Road / Mohawk Road                 | EB            | L                                | 300'                | 150'                | 77'                 | 170'                | 107'                                | 300'    |
|                                              |               | T                                | -                   | 150'                | 332'                | 279'                | 1091'                               | -       |
|                                              |               | R                                | 400'                | 13'                 | 18'                 | 15'                 | 17'                                 | 400'    |
|                                              | WB            | L                                | 315'                | 50'                 | 320'                | 167'                | 226'                                | 320'    |
|                                              |               | T                                | -                   | 271'                | 199'                | 279'                | 268'                                | -       |
|                                              |               | R                                | 370'                | 1'                  | 2'                  | 1'                  | 2'                                  | 370'    |
|                                              | NB            | L                                | -                   | 255'                | 187'                | 253'                | 206'                                | 130' x2 |
|                                              |               | T                                | -                   | 21'                 | 35'                 | 21'                 | 35'                                 | -       |
|                                              |               | R                                | -                   | 221'                | 178'                | 248'                | 188'                                | 250'    |
| SB                                           | L             | 50'                              | 138'                | 139'                | 135'                | 151'                | 155'                                |         |
|                                              | T,R           | -                                | 210'                | 149'                | 237'                | 217'                | -                                   |         |
| E Woodmen Road / Banning Lewis Parkway       | EB            | L                                | 285' x2             | 14'                 | 0'                  | 277'                | 323'                                | 285' x2 |
|                                              |               | T                                | -                   | 269'                | 509'                | 439'                | 915'                                | -       |
|                                              |               | R                                | 225'                | 0'                  | 0'                  | 0'                  | 0'                                  | 225'    |
|                                              | WB            | L                                | 285' x2             | 89'                 | 124'                | 143'                | 321'                                | 285' x2 |
|                                              |               | T                                | -                   | 696'                | 911'                | 353'                | 539'                                | -       |
|                                              |               | R                                | 225'                | 0'                  | 0'                  | 0'                  | 0'                                  | 225'    |
|                                              | NB            | L                                | 185' x2             | 235'                | 93'                 | 334'                | 429'                                | 215' x2 |
|                                              |               | T                                | -                   | 5'                  | 2'                  | 77'                 | 132'                                | -       |
|                                              |               | R                                | 185'                | 0'                  | 0'                  | 0'                  | 0'                                  | 185'    |
|                                              | SB            | L                                | 185' x2             | 9'                  | 14'                 | 247'                | 173'                                | 185' x2 |
|                                              |               | T                                | -                   | 4'                  | 4'                  | 172'                | 205'                                | -       |
|                                              |               | R                                | 185'                | 0'                  | 0'                  | 0'                  | 0'                                  | 185'    |
| E Woodmen Road / Golden Sage Road            | EB            | L                                | 530'                | 139'                | 444'                | 138'                | 272                                 | 530'    |
|                                              |               | T                                | -                   | 314'                | 677'                | 495'                | 515'                                | -       |
|                                              |               | R                                | 380'                | 11'                 | 49'                 | 36'                 | 55'                                 | 380'    |
|                                              | WB            | L                                | 330'                | 10'                 | 41'                 | 16'                 | 21'                                 | 330'    |
|                                              |               | T                                | -                   | 524'                | 538'                | 633'                | 495'                                | -       |
|                                              |               | R                                | 330'                | 0'                  | 0'                  | 33'                 | 27'                                 | 330'    |
|                                              | NB            | L                                | 125'                | 208'                | 176'                | 232'                | 188'                                | 235'    |
|                                              |               | T                                | -                   | 7'                  | 38'                 | 6'                  | 26'                                 | -       |
|                                              |               | R                                | 195'                | 0'                  | 0'                  | 0'                  | 0'                                  | 195'    |
|                                              | SB            | L                                | 110'                | 23'                 | 39'                 | 82'                 | 100'                                | 110'    |
| T,R                                          |               | -                                | 317'                | 125'                | 425'                | 339'                | -                                   |         |
| Banning Lewis Parkway / Golden Jubilee Drive | EB            | L                                | -                   | -                   | -                   | 74'                 | 888'                                | 890'    |
|                                              |               | T                                | -                   | -                   | -                   | 10'                 | 11'                                 | -       |
|                                              |               | R                                | -                   | -                   | -                   | 0'                  | 13'                                 | 110'    |
|                                              | WB            | L                                | -                   | -                   | -                   | 20'                 | 102'                                | 110'    |
|                                              |               | T                                | -                   | -                   | -                   | 10'                 | 14'                                 | -       |
|                                              |               | R                                | -                   | -                   | -                   | 0'                  | 368'                                | 370'    |
|                                              | NB            | L                                | -                   | -                   | -                   | 21'                 | 85'                                 | 230'    |
|                                              |               | T                                | -                   | -                   | -                   | 30'                 | 132'                                | -       |
|                                              |               | R                                | -                   | -                   | -                   | 0'                  | 0'                                  | 230'    |
|                                              | SB            | L                                | -                   | -                   | -                   | 28'                 | 555'                                | 560'    |
|                                              |               | T                                | -                   | -                   | -                   | 47'                 | 38'                                 | -       |
|                                              |               | R                                | -                   | -                   | -                   | 0'                  | 58'                                 | 670'    |

Note: Turn Lane Length does not include taper length.  
x2 = Dual Turn Lanes.

**Table 9 (Continued) – Turn Lane Queues and Storage Requirements — Year 2045**

| Intersection                                | Turn Movement |       | Existing Turn Lane Length (feet) | Background 2045     |                     | Total 2045          |                     | Recommended             |
|---------------------------------------------|---------------|-------|----------------------------------|---------------------|---------------------|---------------------|---------------------|-------------------------|
|                                             |               |       |                                  | AM Peak Hour (feet) | PM Peak Hour (feet) | AM Peak Hour (feet) | PM Peak Hour (feet) | Turn Lane Length (feet) |
| Stop-Controlled Intersections               |               |       |                                  |                     |                     |                     |                     |                         |
| Woodmen Frontage Road / Golden Sage Road    | EB            | T,R   | -                                | 2'                  | 2'                  | 27'                 | 22'                 | -                       |
|                                             | WB            | L,T   | -                                | 408'                | 835'                | 619'                | 552'                | -                       |
|                                             | NB            | L,R   | -                                | 10'                 | 32'                 | 23'                 | 53'                 | -                       |
| Woodmen Frontage Road / Mohawk Road         | EB            | L,T,R | -                                | 2'                  | 2'                  | 2'                  | 2'                  | -                       |
|                                             | WB            | L,T,R | -                                | 2'                  | 4'                  | 4'                  | 4'                  | -                       |
|                                             | NB            | L,T,R | -                                | 0'                  | 0'                  | 0'                  | 0'                  | -                       |
|                                             | SB            | L,T,R | -                                | 0'                  | 0'                  | 0'                  | 0'                  | -                       |
| Roundabout-Controlled Intersections         |               |       |                                  |                     |                     |                     |                     |                         |
| Banning Lewis Parkway / Access A / Access B | EB            | L,T,R | -                                | -                   | -                   | 25'                 | 25'                 | -                       |
|                                             | WB            | L,T,R | -                                | -                   | -                   | 25'                 | 25'                 | -                       |
|                                             | NB            | L,T   | -                                | -                   | -                   | 0'                  | 50'                 | -                       |
|                                             |               | T,R   | -                                | -                   | -                   | 25'                 | 50'                 | -                       |
|                                             | SB            | L,T   | -                                | -                   | -                   | 0'                  | 25'                 | -                       |
|                                             |               | T,R   | -                                | -                   | -                   | 0'                  | 25'                 | -                       |
| Banning Lewis Parkway / Carlana Drive       | EB            | L,T,R | -                                | -                   | -                   | 75'                 | 25'                 | -                       |
|                                             | WB            | L,T,R | -                                | -                   | -                   | 125'                | 125'                | -                       |
|                                             | NB            | L,T   | -                                | -                   | -                   | 25'                 | 100'                | -                       |
|                                             |               | T,R   | -                                | -                   | -                   | 25'                 | 100'                | -                       |
|                                             | SB            | L,T   | -                                | -                   | -                   | 75'                 | 50'                 | -                       |
|                                             |               | T,R   | -                                | -                   | -                   | 75'                 | 50'                 | -                       |

Note: Turn Lane Length does not include taper length.

## **Development Impacts**

Considering development build-out, a review of intersection operations as shown in Table 8 reveals that the study intersections are generally anticipated to operate at or better than LOS D during both peak traffic hours. As discussed in Section V, exceptions include the E Woodmen Road intersections with Banning Lewis Parkway and Golden Sage Road as well as the intersection of Woodmen Frontage Road with Golden Sage Road which project various LOS E and LOS F operations during their respective peak traffic hours. The LOS E and F operations are attributed to the through traffic volumes along both E Woodmen Road and Banning Lewis Parkway as well as the high volume of left turning vehicles causing many movements to be at or over capacity. It is noted that these projected operations are also consistent with adjacent traffic studies prepared for the overall area.

As previously discussed, in order to mitigate poor operations at the intersection of E Woodmen Road with Golden Sage Road, construction of a southbound free-flowing channelized right-turn lane is a potential solution. With this improvement the intersection projects operations at LOS D during the afternoon peak traffic hour.

Considering the conceptual nature of the proposed development, potential mitigations for the LOS E and F operations may be subject to change as further development of the overall area occurs. It is recommended that City Staff monitor the study intersections as specific site plans are developed in order to determine if or when additional mitigation is necessary. In the event of continued poor operations, additional mitigation methods may include specialized intersection treatments to address high left turn volumes, such as displaced left turns or even long-term grade separation.

## **Recommended Improvements**

Roadway and intersection improvement recommendations were assessed pursuant to roadway descriptions discussed in Section I, projected peak hour traffic volumes, level of service results, projected 95<sup>th</sup> percentile queue lengths, and per requirements defined within the City's TCM.

As discussed in Section II, Section III, and Section V, various left and right turn deceleration lanes at the study intersections may be required since the projected peak hour left and right turn volumes exceed the City's applicable thresholds. It is recommended that both new and existing turn lanes are constructed or lengthened to accommodate City standards or 95<sup>th</sup> percentile queues where needed.

As previously discussed, possible mitigation methods for the intersection of E Woodmen Road with Golden Sage Road may include the construction of a southbound free-flowing channelized right-turn lane. In the event of continued poor operations, additional mitigation methods at the E Woodmen Road study intersections may include specialized intersection treatments or even long-term grade separation. However, it is recommended that City Staff monitor the study intersection to determine if or when any mitigation options are needed. It is understood pursuant to City direction that the Developer will be responsible to apply one of the mitigation options as described within this report to improve traffic flow at the E Woodmen Road and Golden Sage Road intersection.

Recommended roadway and intersection improvements for Years 2030 and 2045 total traffic conditions are included for reference in Appendix D.

## VII. Conclusion

This traffic impact study addressed the capacity, geometric, and control requirements associated with the development entitled Percheron Master Plan Amendment. This proposed mixed-use development consists of a mix of residential, commercial, and public park land uses. The development is located to the north and south of E Woodmen Road between Mohawk Road and Golden Sage Road in Colorado Springs, Colorado.

The study area examined in this analysis encompassed the E Woodmen Road intersections with Mohawk Road, Banning Lewis Parkway, and Golden Sage Road, as well as the Woodmen Frontage Road intersections with Mohawk Road and Golden Sage Road, and the future Banning Lewis Parkway intersections with Carlana Drive, Golden Jubilee Drive, and additional proposed site access drives.

Analysis was conducted for critical AM Peak Hour and PM Peak Hour traffic operations for existing traffic conditions, Year 2030 and Year 2045 background traffic conditions, and Year 2030 and Year 2045 total traffic conditions.

Analysis of existing traffic conditions indicates that all signalized intersections operate under LOS B conditions during their respective peak hour periods, while all stop-controlled intersections operate with turn movements at or better than LOS C during their respective peak traffic periods. Exceptions include the westbound left and through movement at the intersection of Woodmen Frontage Road with Golden Sage Road, which operates at LOS F during the afternoon peak traffic hour.

Under Year 2030 and 2045 background traffic conditions, operational analysis shows that all signalized intersections are projected to operate with LOS C operations during peak traffic periods. Exceptions include the intersection of E Woodmen Road with Golden Sage Road which is projected to operate at LOS F in the Year 2045 morning peak traffic hour. All stop-controlled intersections anticipate turn movement operations at or better than LOS C during their respective peak traffic periods. Exceptions still include the westbound left and through movement at the intersection of Woodmen Frontage Road with Golden Sage Road, which operates at LOS F during the morning and afternoon peak traffic hours.

Analysis of future traffic conditions indicates that the addition of site-generated traffic is expected to create minimal impact to traffic operations for the existing and surrounding roadway system upon implementation of the various roadway and intersection control improvements assumed within this analysis. Proposed site accesses have long-term operations at LOS C or better during peak traffic periods and upon build-out. It is, however, noted that for the intersections of E Woodmen Road with Mohawk Road, Banning Lewis Parkway, and Golden Sage Road, long-term analysis results continue to project potential for LOS E and F operations. These operations are primarily attributed to high through volumes along E Woodmen Road with the addition of background traffic and some site-generated turning volumes.

It is emphasized that specific land uses and densities assessed in this analysis are conceptual and subject to change. As actual site plans become further defined, it is anticipated that updated analyses may be necessary in order to determine what mitigation measures are most beneficial. It is therefore recommended that City Staff continue to monitor the E Woodmen Road intersections with Banning Lewis Parkway and Golden Sage Road to determine if or when any mitigation options are needed.

## **APPENDIX A**

### **Traffic Count Data**



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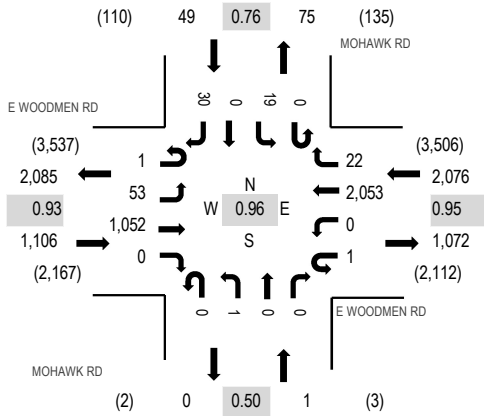
Location: 1 MOHAWK RD & E WOODMEN RD AM

Date: Wednesday, August 27, 2025

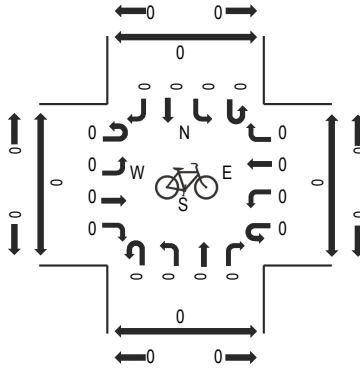
Peak Hour: 07:00 AM - 08:00 AM

Peak 15-Minutes: 07:15 AM - 07:30 AM

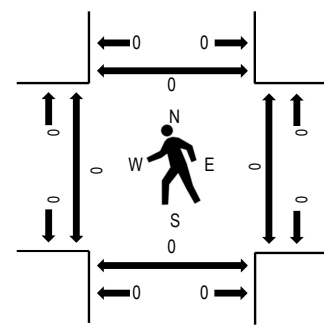
### Peak Hour - Motorized Vehicles



### Peak Hour - Bicycles



### Peak Hour - Pedestrians



Note: Total study counts contained in parentheses.

### Traffic Counts - Motorized Vehicles

| Interval<br>Start Time | E WOODMEN RD<br>Eastbound |      |       |       | E WOODMEN RD<br>Westbound |      |       |       | MOHAWK RD<br>Northbound |      |      |       | MOHAWK RD<br>Southbound |      |      |       | Total | Rolling<br>Hour | Pedestrian Crossings |      |       |       |
|------------------------|---------------------------|------|-------|-------|---------------------------|------|-------|-------|-------------------------|------|------|-------|-------------------------|------|------|-------|-------|-----------------|----------------------|------|-------|-------|
|                        | U-Turn                    | Left | Thru  | Right | U-Turn                    | Left | Thru  | Right | U-Turn                  | Left | Thru | Right | U-Turn                  | Left | Thru | Right |       |                 | West                 | East | South | North |
| 7:00 AM                | 0                         | 11   | 259   | 0     | 0                         | 0    | 507   | 4     | 0                       | 0    | 0    | 0     | 0                       | 3    | 0    | 9     | 793   | 3,232           | 0                    | 0    | 0     | 0     |
| 7:15 AM                | 0                         | 19   | 262   | 0     | 1                         | 0    | 538   | 5     | 0                       | 0    | 0    | 0     | 0                       | 6    | 0    | 8     | 839   | 3,079           | 0                    | 0    | 0     | 0     |
| 7:30 AM                | 0                         | 11   | 241   | 0     | 0                         | 0    | 533   | 7     | 0                       | 0    | 0    | 0     | 0                       | 5    | 0    | 8     | 805   | 2,917           | 0                    | 0    | 0     | 0     |
| 7:45 AM                | 1                         | 12   | 290   | 0     | 0                         | 0    | 475   | 6     | 0                       | 1    | 0    | 0     | 0                       | 5    | 0    | 5     | 795   | 2,784           | 0                    | 0    | 0     | 0     |
| 8:00 AM                | 0                         | 9    | 255   | 0     | 1                         | 0    | 353   | 4     | 0                       | 0    | 0    | 0     | 0                       | 8    | 0    | 10    | 640   | 2,554           | 0                    | 0    | 0     | 0     |
| 8:15 AM                | 1                         | 15   | 288   | 0     | 0                         | 0    | 357   | 3     | 0                       | 0    | 0    | 0     | 0                       | 7    | 0    | 6     | 677   |                 | 0                    | 0    | 0     | 0     |
| 8:30 AM                | 1                         | 15   | 239   | 0     | 0                         | 1    | 392   | 3     | 0                       | 1    | 0    | 0     | 0                       | 10   | 0    | 10    | 672   |                 | 0                    | 0    | 0     | 0     |
| 8:45 AM                | 1                         | 9    | 227   | 1     | 0                         | 0    | 314   | 2     | 0                       | 0    | 0    | 1     | 0                       | 4    | 0    | 6     | 565   |                 | 0                    | 0    | 0     | 0     |
| Count Total            | 4                         | 101  | 2,061 | 1     | 2                         | 1    | 3,469 | 34    | 0                       | 2    | 0    | 1     | 0                       | 48   | 0    | 62    | 5,786 |                 | 0                    | 0    | 0     | 0     |
| Peak Hour              | 1                         | 53   | 1,052 | 0     | 1                         | 0    | 2,053 | 22    | 0                       | 1    | 0    | 0     | 0                       | 19   | 0    | 30    | 3,232 |                 | 0                    | 0    | 0     | 0     |



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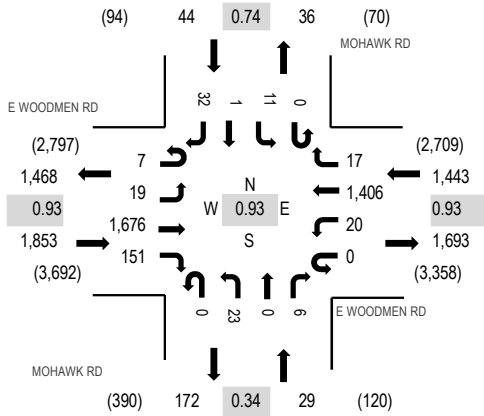
Location: 1 MOHAWK RD & E WOODMEN RD PM

Date: Wednesday, August 27, 2025

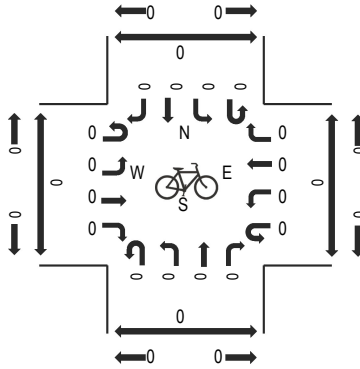
Peak Hour: 04:00 PM - 05:00 PM

Peak 15-Minutes: 04:30 PM - 04:45 PM

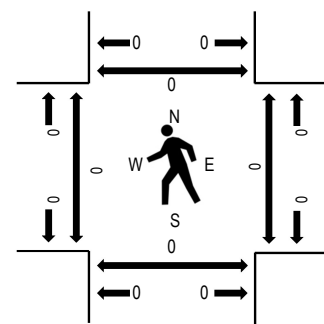
### Peak Hour - Motorized Vehicles



### Peak Hour - Bicycles



### Peak Hour - Pedestrians



Note: Total study counts contained in parentheses.

### Traffic Counts - Motorized Vehicles

| Interval<br>Start Time | E WOODMEN RD<br>Eastbound |      |       |       | E WOODMEN RD<br>Westbound |      |       |       | MOHAWK RD<br>Northbound |      |      |       | MOHAWK RD<br>Southbound |      |      |       | Total | Rolling<br>Hour | Pedestrian Crossings |      |       |       |
|------------------------|---------------------------|------|-------|-------|---------------------------|------|-------|-------|-------------------------|------|------|-------|-------------------------|------|------|-------|-------|-----------------|----------------------|------|-------|-------|
|                        | U-Turn                    | Left | Thru  | Right | U-Turn                    | Left | Thru  | Right | U-Turn                  | Left | Thru | Right | U-Turn                  | Left | Thru | Right |       |                 | West                 | East | South | North |
| 4:00 PM                | 0                         | 5    | 436   | 23    | 0                         | 2    | 354   | 4     | 0                       | 1    | 0    | 0     | 0                       | 6    | 0    | 9     | 840   | 3,369           | 0                    | 0    | 0     | 0     |
| 4:15 PM                | 5                         | 9    | 391   | 61    | 0                         | 13   | 349   | 5     | 0                       | 1    | 0    | 0     | 0                       | 3    | 1    | 9     | 847   | 3,299           | 0                    | 0    | 0     | 0     |
| 4:30 PM                | 1                         | 3    | 449   | 47    | 0                         | 4    | 383   | 3     | 0                       | 6    | 0    | 4     | 0                       | 2    | 0    | 8     | 910   | 3,194           | 0                    | 0    | 0     | 0     |
| 4:45 PM                | 1                         | 2    | 400   | 20    | 0                         | 1    | 320   | 5     | 0                       | 15   | 0    | 2     | 0                       | 0    | 0    | 6     | 772   | 3,143           | 0                    | 0    | 0     | 0     |
| 5:00 PM                | 0                         | 4    | 375   | 12    | 0                         | 2    | 350   | 4     | 0                       | 9    | 0    | 2     | 0                       | 3    | 1    | 8     | 770   | 3,246           | 0                    | 0    | 0     | 0     |
| 5:15 PM                | 0                         | 2    | 426   | 15    | 0                         | 3    | 267   | 4     | 0                       | 7    | 0    | 1     | 0                       | 10   | 0    | 7     | 742   |                 | 0                    | 0    | 0     | 0     |
| 5:30 PM                | 0                         | 2    | 443   | 50    | 0                         | 7    | 333   | 5     | 0                       | 4    | 0    | 1     | 0                       | 3    | 0    | 11    | 859   |                 | 0                    | 0    | 0     | 0     |
| 5:45 PM                | 1                         | 5    | 386   | 118   | 0                         | 9    | 274   | 8     | 0                       | 55   | 0    | 12    | 0                       | 3    | 1    | 3     | 875   |                 | 0                    | 0    | 0     | 0     |
| Count Total            | 8                         | 32   | 3,306 | 346   | 0                         | 41   | 2,630 | 38    | 0                       | 98   | 0    | 22    | 0                       | 30   | 3    | 61    | 6,615 |                 | 0                    | 0    | 0     | 0     |
| Peak Hour              | 7                         | 19   | 1,676 | 151   | 0                         | 20   | 1,406 | 17    | 0                       | 23   | 0    | 6     | 0                       | 11   | 1    | 32    | 3,369 |                 | 0                    | 0    | 0     | 0     |



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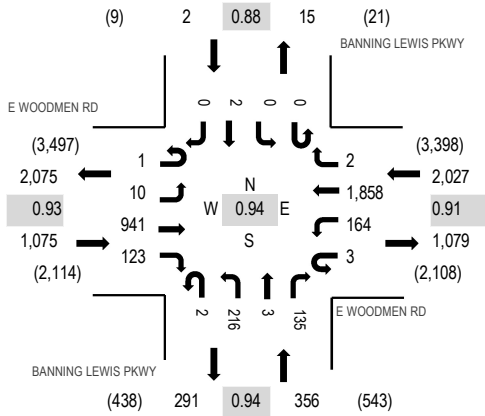
Location: 2 BANNING LEWIS PKWY & E WOODMEN RD AM

Date: Wednesday, August 27, 2025

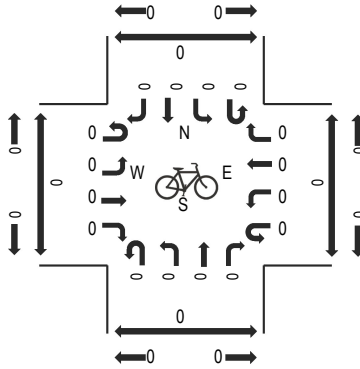
Peak Hour: 07:00 AM - 08:00 AM

Peak 15-Minutes: 07:15 AM - 07:30 AM

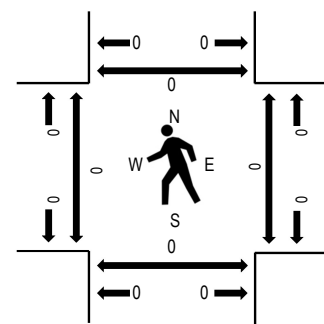
### Peak Hour - Motorized Vehicles



### Peak Hour - Bicycles



### Peak Hour - Pedestrians



Note: Total study counts contained in parentheses.

### Traffic Counts - Motorized Vehicles

| Interval<br>Start Time | E WOODMEN RD<br>Eastbound |      |       |       | E WOODMEN RD<br>Westbound |      |       |       | BANNING LEWIS PKWY<br>Northbound |      |      |       | BANNING LEWIS PKWY<br>Southbound |      |      |       | Total | Rolling<br>Hour | Pedestrian Crossings |      |       |       |
|------------------------|---------------------------|------|-------|-------|---------------------------|------|-------|-------|----------------------------------|------|------|-------|----------------------------------|------|------|-------|-------|-----------------|----------------------|------|-------|-------|
|                        | U-Turn                    | Left | Thru  | Right | U-Turn                    | Left | Thru  | Right | U-Turn                           | Left | Thru | Right | U-Turn                           | Left | Thru | Right |       |                 | West                 | East | South | North |
| 7:00 AM                | 0                         | 2    | 241   | 20    | 0                         | 28   | 440   | 0     | 1                                | 61   | 1    | 23    | 0                                | 0    | 0    | 0     | 817   | 3,460           | 0                    | 0    | 0     | 0     |
| 7:15 AM                | 1                         | 3    | 222   | 42    | 1                         | 72   | 480   | 1     | 0                                | 64   | 1    | 30    | 0                                | 0    | 0    | 0     | 917   | 3,311           | 0                    | 0    | 0     | 0     |
| 7:30 AM                | 0                         | 3    | 225   | 18    | 1                         | 38   | 490   | 1     | 0                                | 46   | 0    | 43    | 0                                | 0    | 2    | 0     | 867   | 3,078           | 0                    | 0    | 0     | 0     |
| 7:45 AM                | 0                         | 2    | 253   | 43    | 1                         | 26   | 448   | 0     | 1                                | 45   | 1    | 39    | 0                                | 0    | 0    | 0     | 859   | 2,894           | 0                    | 0    | 0     | 0     |
| 8:00 AM                | 0                         | 0    | 242   | 25    | 0                         | 14   | 340   | 0     | 0                                | 23   | 0    | 22    | 1                                | 0    | 0    | 1     | 668   | 2,604           | 0                    | 0    | 0     | 0     |
| 8:15 AM                | 1                         | 1    | 245   | 38    | 0                         | 17   | 321   | 0     | 0                                | 31   | 0    | 28    | 0                                | 1    | 1    | 0     | 684   |                 | 0                    | 0    | 0     | 0     |
| 8:30 AM                | 0                         | 2    | 234   | 17    | 0                         | 10   | 357   | 0     | 0                                | 34   | 1    | 26    | 0                                | 2    | 0    | 0     | 683   |                 | 0                    | 0    | 0     | 0     |
| 8:45 AM                | 0                         | 0    | 221   | 13    | 1                         | 11   | 299   | 1     | 0                                | 15   | 0    | 7     | 0                                | 0    | 1    | 0     | 569   |                 | 0                    | 0    | 0     | 0     |
| Count Total            | 2                         | 13   | 1,883 | 216   | 4                         | 216  | 3,175 | 3     | 2                                | 319  | 4    | 218   | 1                                | 3    | 4    | 1     | 6,064 |                 | 0                    | 0    | 0     | 0     |
| Peak Hour              | 1                         | 10   | 941   | 123   | 3                         | 164  | 1,858 | 2     | 2                                | 216  | 3    | 135   | 0                                | 0    | 2    | 0     | 3,460 |                 | 0                    | 0    | 0     | 0     |



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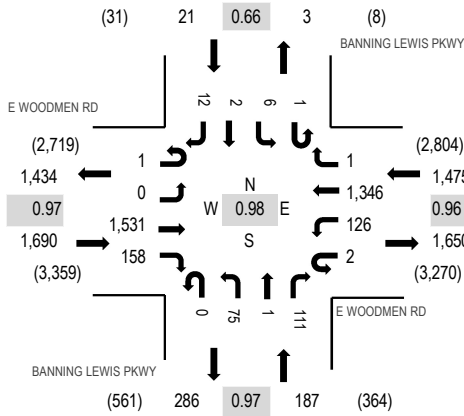
Location: 2 BANNING LEWIS PKWY & E WOODMEN RD PM

Date: Wednesday, August 27, 2025

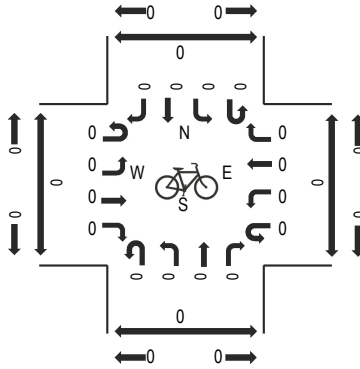
Peak Hour: 04:00 PM - 05:00 PM

Peak 15-Minutes: 04:15 PM - 04:30 PM

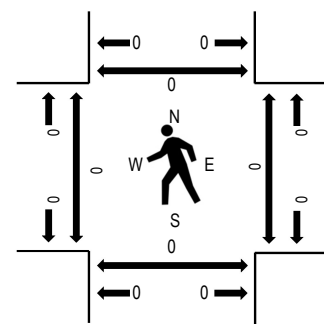
### Peak Hour - Motorized Vehicles



### Peak Hour - Bicycles



### Peak Hour - Pedestrians



Note: Total study counts contained in parentheses.

### Traffic Counts - Motorized Vehicles

| Interval<br>Start Time | E WOODMEN RD<br>Eastbound |      |       |       | E WOODMEN RD<br>Westbound |      |       |       | BANNING LEWIS PKWY<br>Northbound |      |      |       | BANNING LEWIS PKWY<br>Southbound |      |      |       | Total | Rolling<br>Hour | Pedestrian Crossings |      |       |       |
|------------------------|---------------------------|------|-------|-------|---------------------------|------|-------|-------|----------------------------------|------|------|-------|----------------------------------|------|------|-------|-------|-----------------|----------------------|------|-------|-------|
|                        | U-Turn                    | Left | Thru  | Right | U-Turn                    | Left | Thru  | Right | U-Turn                           | Left | Thru | Right | U-Turn                           | Left | Thru | Right |       |                 | West                 | East | South | North |
| 4:00 PM                | 0                         | 0    | 375   | 32    | 1                         | 39   | 327   | 0     | 0                                | 14   | 1    | 33    | 1                                | 2    | 0    | 5     | 830   | 3,373           | 0                    | 0    | 0     | 0     |
| 4:15 PM                | 0                         | 0    | 393   | 34    | 0                         | 28   | 356   | 0     | 0                                | 21   | 0    | 22    | 0                                | 2    | 1    | 4     | 861   | 3,316           | 0                    | 0    | 0     | 0     |
| 4:30 PM                | 0                         | 0    | 395   | 40    | 1                         | 28   | 343   | 1     | 0                                | 19   | 0    | 28    | 0                                | 1    | 1    | 3     | 860   | 3,275           | 0                    | 0    | 0     | 0     |
| 4:45 PM                | 1                         | 0    | 368   | 52    | 0                         | 31   | 320   | 0     | 0                                | 21   | 0    | 28    | 0                                | 1    | 0    | 0     | 822   | 3,214           | 0                    | 0    | 0     | 0     |
| 5:00 PM                | 0                         | 0    | 330   | 31    | 0                         | 35   | 332   | 0     | 0                                | 17   | 2    | 26    | 0                                | 0    | 0    | 0     | 773   | 3,185           | 0                    | 0    | 0     | 0     |
| 5:15 PM                | 0                         | 0    | 410   | 45    | 0                         | 35   | 277   | 0     | 0                                | 21   | 0    | 28    | 0                                | 0    | 3    | 1     | 820   |                 | 0                    | 0    | 0     | 0     |
| 5:30 PM                | 0                         | 0    | 394   | 37    | 0                         | 26   | 289   | 0     | 0                                | 21   | 1    | 28    | 0                                | 0    | 0    | 3     | 799   |                 | 0                    | 0    | 0     | 0     |
| 5:45 PM                | 0                         | 0    | 382   | 40    | 2                         | 23   | 309   | 1     | 0                                | 13   | 1    | 19    | 0                                | 1    | 0    | 2     | 793   |                 | 0                    | 0    | 0     | 0     |
| Count Total            | 1                         | 0    | 3,047 | 311   | 4                         | 245  | 2,553 | 2     | 0                                | 147  | 5    | 212   | 1                                | 7    | 5    | 18    | 6,558 |                 | 0                    | 0    | 0     | 0     |
| Peak Hour              | 1                         | 0    | 1,531 | 158   | 2                         | 126  | 1,346 | 1     | 0                                | 75   | 1    | 111   | 1                                | 6    | 2    | 12    | 3,373 |                 | 0                    | 0    | 0     | 0     |



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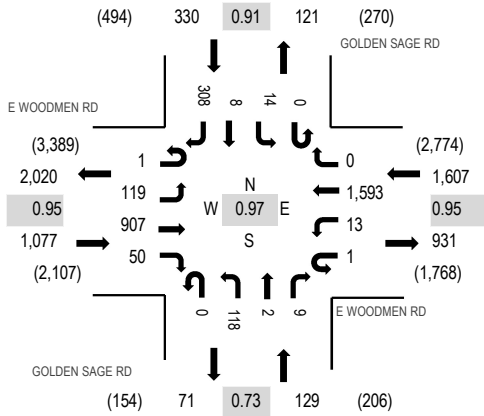
Location: 3 GOLDEN SAGE RD & E WOODMEN RD AM

Date: Wednesday, August 27, 2025

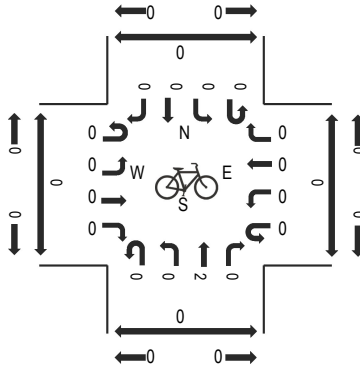
Peak Hour: 07:00 AM - 08:00 AM

Peak 15-Minutes: 07:15 AM - 07:30 AM

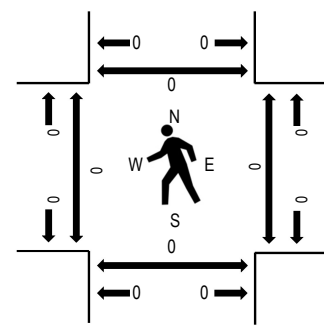
### Peak Hour - Motorized Vehicles



### Peak Hour - Bicycles



### Peak Hour - Pedestrians



Note: Total study counts contained in parentheses.

### Traffic Counts - Motorized Vehicles

| Interval<br>Start Time | E WOODMEN RD<br>Eastbound |      |       |       | E WOODMEN RD<br>Westbound |      |       |       | GOLDEN SAGE RD<br>Northbound |      |      |       | GOLDEN SAGE RD<br>Southbound |      |      |       | Total | Rolling<br>Hour | Pedestrian Crossings |      |       |       |
|------------------------|---------------------------|------|-------|-------|---------------------------|------|-------|-------|------------------------------|------|------|-------|------------------------------|------|------|-------|-------|-----------------|----------------------|------|-------|-------|
|                        | U-Turn                    | Left | Thru  | Right | U-Turn                    | Left | Thru  | Right | U-Turn                       | Left | Thru | Right | U-Turn                       | Left | Thru | Right |       |                 | West                 | East | South | North |
| 7:00 AM                | 1                         | 26   | 219   | 10    | 1                         | 1    | 383   | 0     | 0                            | 37   | 2    | 5     | 0                            | 4    | 3    | 73    | 765   | 3,143           | 0                    | 0    | 0     | 0     |
| 7:15 AM                | 0                         | 23   | 226   | 14    | 0                         | 2    | 423   | 0     | 0                            | 30   | 0    | 2     | 0                            | 4    | 1    | 86    | 811   | 2,984           | 0                    | 0    | 0     | 0     |
| 7:30 AM                | 0                         | 39   | 220   | 10    | 0                         | 3    | 417   | 0     | 0                            | 23   | 0    | 1     | 0                            | 2    | 1    | 86    | 802   | 2,821           | 0                    | 0    | 0     | 0     |
| 7:45 AM                | 0                         | 31   | 242   | 16    | 0                         | 7    | 370   | 0     | 0                            | 28   | 0    | 1     | 0                            | 4    | 3    | 63    | 765   | 2,661           | 0                    | 0    | 0     | 0     |
| 8:00 AM                | 0                         | 38   | 207   | 17    | 0                         | 0    | 281   | 1     | 0                            | 11   | 0    | 1     | 0                            | 0    | 1    | 49    | 606   | 2,438           | 0                    | 0    | 0     | 0     |
| 8:15 AM                | 0                         | 35   | 227   | 12    | 1                         | 6    | 301   | 4     | 0                            | 17   | 1    | 3     | 0                            | 2    | 4    | 35    | 648   |                 | 0                    | 0    | 0     | 0     |
| 8:30 AM                | 0                         | 37   | 211   | 17    | 0                         | 0    | 317   | 0     | 0                            | 18   | 2    | 0     | 0                            | 3    | 2    | 35    | 642   |                 | 0                    | 0    | 0     | 0     |
| 8:45 AM                | 0                         | 30   | 182   | 17    | 0                         | 4    | 252   | 0     | 0                            | 23   | 1    | 0     | 0                            | 0    | 3    | 30    | 542   |                 | 0                    | 0    | 0     | 0     |
| Count Total            | 1                         | 259  | 1,734 | 113   | 2                         | 23   | 2,744 | 5     | 0                            | 187  | 6    | 13    | 0                            | 19   | 18   | 457   | 5,581 |                 | 0                    | 0    | 0     | 0     |
| Peak Hour              | 1                         | 119  | 907   | 50    | 1                         | 13   | 1,593 | 0     | 0                            | 118  | 2    | 9     | 0                            | 14   | 8    | 308   | 3,143 |                 | 0                    | 0    | 0     | 0     |



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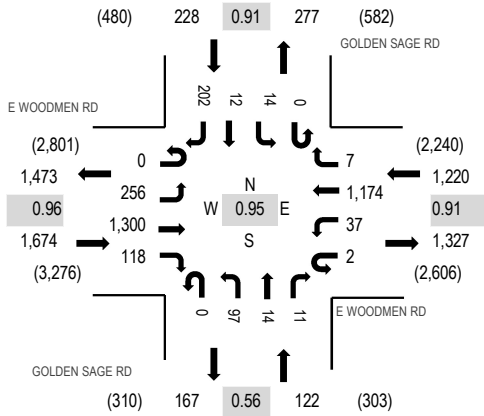
**Location:** 3 GOLDEN SAGE RD & E WOODMEN RD PM

**Date:** Wednesday, August 27, 2025

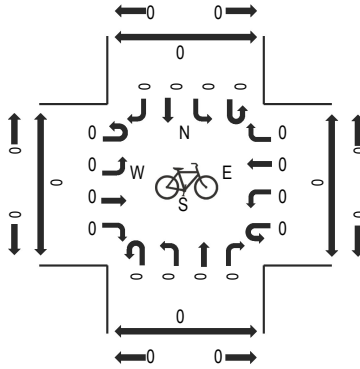
**Peak Hour:** 04:00 PM - 05:00 PM

**Peak 15-Minutes:** 04:00 PM - 04:15 PM

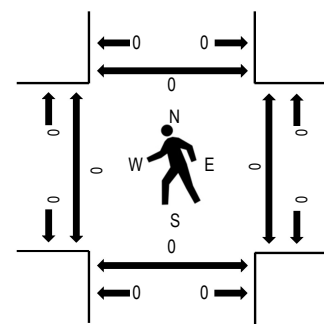
### Peak Hour - Motorized Vehicles



### Peak Hour - Bicycles



### Peak Hour - Pedestrians



Note: Total study counts contained in parentheses.

### Traffic Counts - Motorized Vehicles

| Interval<br>Start Time | E WOODMEN RD<br>Eastbound |      |       |       | E WOODMEN RD<br>Westbound |      |       |       | GOLDEN SAGE RD<br>Northbound |      |      |       | GOLDEN SAGE RD<br>Southbound |      |      |       | Total | Rolling<br>Hour | Pedestrian Crossings |      |       |       |
|------------------------|---------------------------|------|-------|-------|---------------------------|------|-------|-------|------------------------------|------|------|-------|------------------------------|------|------|-------|-------|-----------------|----------------------|------|-------|-------|
|                        | U-Turn                    | Left | Thru  | Right | U-Turn                    | Left | Thru  | Right | U-Turn                       | Left | Thru | Right | U-Turn                       | Left | Thru | Right |       |                 | West                 | East | South | North |
| 4:00 PM                | 0                         | 60   | 327   | 44    | 0                         | 21   | 313   | 2     | 0                            | 20   | 3    | 3     | 0                            | 5    | 5    | 51    | 854   | 3,244           | 0                    | 0    | 0     | 0     |
| 4:15 PM                | 0                         | 67   | 315   | 33    | 0                         | 5    | 294   | 2     | 0                            | 32   | 9    | 2     | 0                            | 3    | 2    | 45    | 809   | 3,170           | 0                    | 0    | 0     | 0     |
| 4:30 PM                | 0                         | 63   | 353   | 21    | 0                         | 7    | 307   | 2     | 0                            | 21   | 1    | 1     | 0                            | 4    | 2    | 58    | 840   | 3,104           | 0                    | 0    | 0     | 0     |
| 4:45 PM                | 0                         | 66   | 305   | 20    | 2                         | 4    | 260   | 1     | 0                            | 24   | 1    | 5     | 0                            | 2    | 3    | 48    | 741   | 3,089           | 0                    | 0    | 0     | 0     |
| 5:00 PM                | 0                         | 50   | 310   | 24    | 0                         | 6    | 290   | 2     | 0                            | 20   | 3    | 6     | 0                            | 4    | 1    | 64    | 780   | 3,055           | 0                    | 0    | 0     | 0     |
| 5:15 PM                | 2                         | 74   | 266   | 40    | 0                         | 18   | 206   | 2     | 0                            | 52   | 12   | 18    | 0                            | 1    | 7    | 45    | 743   |                 | 0                    | 0    | 0     | 0     |
| 5:30 PM                | 0                         | 81   | 357   | 20    | 0                         | 2    | 253   | 3     | 0                            | 24   | 6    | 13    | 0                            | 1    | 5    | 60    | 825   |                 | 0                    | 0    | 0     | 0     |
| 5:45 PM                | 0                         | 66   | 299   | 13    | 0                         | 3    | 233   | 2     | 0                            | 22   | 4    | 1     | 0                            | 3    | 4    | 57    | 707   |                 | 0                    | 0    | 0     | 0     |
| Count Total            | 2                         | 527  | 2,532 | 215   | 2                         | 66   | 2,156 | 16    | 0                            | 215  | 39   | 49    | 0                            | 23   | 29   | 428   | 6,299 |                 | 0                    | 0    | 0     | 0     |
| Peak Hour              | 0                         | 256  | 1,300 | 118   | 2                         | 37   | 1,174 | 7     | 0                            | 97   | 14   | 11    | 0                            | 14   | 12   | 202   | 3,244 |                 | 0                    | 0    | 0     | 0     |



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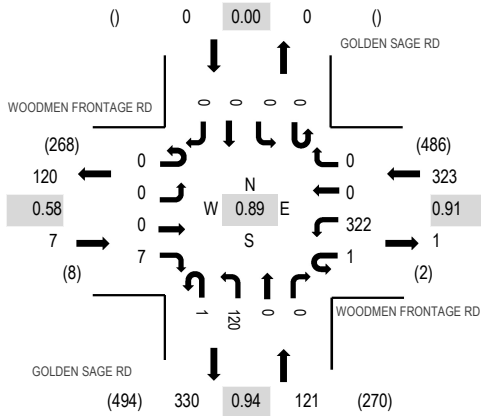
Location: 4 GOLDEN SAGE RD & WOODMEN FRONTAGE RD AM

Date: Wednesday, August 27, 2025

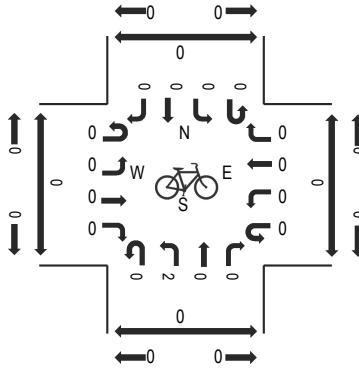
Peak Hour: 07:00 AM - 08:00 AM

Peak 15-Minutes: 07:30 AM - 07:45 AM

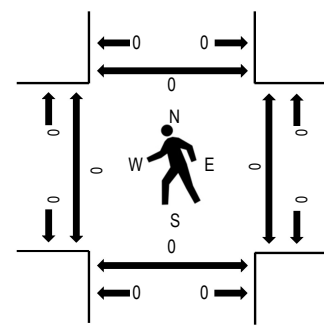
### Peak Hour - Motorized Vehicles



### Peak Hour - Bicycles



### Peak Hour - Pedestrians



Note: Total study counts contained in parentheses.

### Traffic Counts - Motorized Vehicles

| Interval<br>Start Time | WOODMEN FRONTAGE RD Eastbound |      |      |       | WOODMEN FRONTAGE RD Westbound |      |      |       | GOLDEN SAGE RD Northbound |      |      |       | GOLDEN SAGE RD Southbound |      |      |       | Total | Rolling<br>Hour | Pedestrian Crossings |      |       |       |
|------------------------|-------------------------------|------|------|-------|-------------------------------|------|------|-------|---------------------------|------|------|-------|---------------------------|------|------|-------|-------|-----------------|----------------------|------|-------|-------|
|                        | U-Turn                        | Left | Thru | Right | U-Turn                        | Left | Thru | Right | U-Turn                    | Left | Thru | Right | U-Turn                    | Left | Thru | Right |       |                 | West                 | East | South | North |
|                        |                               |      |      |       |                               |      |      |       |                           |      |      |       |                           |      |      |       |       |                 |                      |      |       |       |
| 7:00 AM                | 0                             | 0    | 0    | 3     | 0                             | 76   | 0    | 0     | 1                         | 26   | 0    | 0     | 0                         | 0    | 0    | 0     | 106   | 451             | 0                    | 0    | 0     | 0     |
| 7:15 AM                | 0                             | 0    | 0    | 3     | 1                             | 88   | 0    | 0     | 0                         | 23   | 0    | 0     | 0                         | 0    | 0    | 0     | 115   | 434             | 0                    | 0    | 0     | 0     |
| 7:30 AM                | 0                             | 0    | 0    | 1     | 0                             | 88   | 0    | 0     | 0                         | 38   | 0    | 0     | 0                         | 0    | 0    | 0     | 127   | 400             | 0                    | 0    | 0     | 0     |
| 7:45 AM                | 0                             | 0    | 0    | 0     | 0                             | 70   | 0    | 0     | 0                         | 33   | 0    | 0     | 0                         | 0    | 0    | 0     | 103   | 351             | 0                    | 0    | 0     | 0     |
| 8:00 AM                | 0                             | 0    | 0    | 0     | 0                             | 50   | 0    | 0     | 0                         | 39   | 0    | 0     | 0                         | 0    | 0    | 0     | 89    | 313             | 0                    | 0    | 0     | 0     |
| 8:15 AM                | 0                             | 0    | 0    | 0     | 0                             | 41   | 0    | 0     | 0                         | 40   | 0    | 0     | 0                         | 0    | 0    | 0     | 81    |                 | 0                    | 0    | 0     | 0     |
| 8:30 AM                | 0                             | 0    | 0    | 0     | 0                             | 40   | 0    | 0     | 0                         | 37   | 0    | 1     | 0                         | 0    | 0    | 0     | 78    |                 | 0                    | 0    | 0     | 0     |
| 8:45 AM                | 0                             | 0    | 0    | 1     | 0                             | 32   | 0    | 0     | 0                         | 32   | 0    | 0     | 0                         | 0    | 0    | 0     | 65    |                 | 0                    | 0    | 0     | 0     |
| Count Total            | 0                             | 0    | 0    | 8     | 1                             | 485  | 0    | 0     | 1                         | 268  | 0    | 1     | 0                         | 0    | 0    | 0     | 764   |                 | 0                    | 0    | 0     | 0     |
| Peak Hour              | 0                             | 0    | 0    | 7     | 1                             | 322  | 0    | 0     | 1                         | 120  | 0    | 0     | 0                         | 0    | 0    | 0     | 451   |                 | 0                    | 0    | 0     | 0     |



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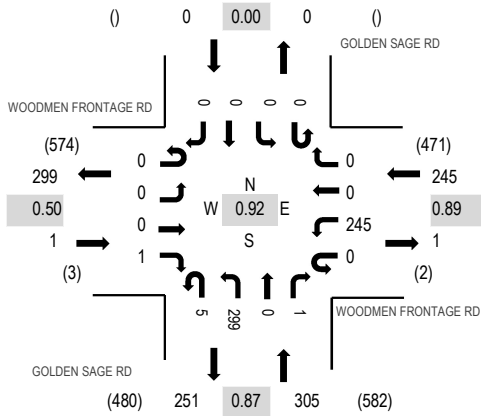
Location: 4 GOLDEN SAGE RD & WOODMEN FRONTAGE RD PM

Date: Wednesday, August 27, 2025

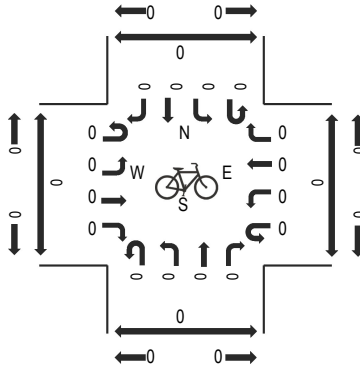
Peak Hour: 05:00 PM - 06:00 PM

Peak 15-Minutes: 05:30 PM - 05:45 PM

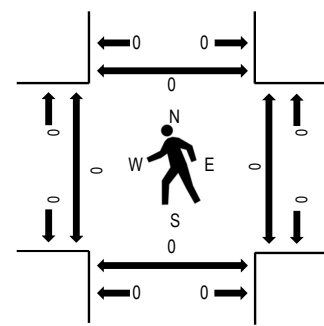
### Peak Hour - Motorized Vehicles



### Peak Hour - Bicycles



### Peak Hour - Pedestrians



Note: Total study counts contained in parentheses.

### Traffic Counts - Motorized Vehicles

| Interval<br>Start Time | WOODMEN FRONTAGE RD Eastbound |      |      |       | WOODMEN FRONTAGE RD Westbound |      |      |       | GOLDEN SAGE RD Northbound |      |      |       | GOLDEN SAGE RD Southbound |      |      |       | Total | Rolling<br>Hour | Pedestrian Crossings |      |       |       |
|------------------------|-------------------------------|------|------|-------|-------------------------------|------|------|-------|---------------------------|------|------|-------|---------------------------|------|------|-------|-------|-----------------|----------------------|------|-------|-------|
|                        | U-Turn                        | Left | Thru | Right | U-Turn                        | Left | Thru | Right | U-Turn                    | Left | Thru | Right | U-Turn                    | Left | Thru | Right |       |                 | West                 | East | South | North |
|                        |                               |      |      |       |                               |      |      |       |                           |      |      |       |                           |      |      |       |       |                 |                      |      |       |       |
| 4:00 PM                | 0                             | 0    | 0    | 1     | 0                             | 61   | 0    | 0     | 1                         | 63   | 0    | 1     | 0                         | 0    | 0    | 0     | 127   | 505             | 0                    | 0    | 0     | 0     |
| 4:15 PM                | 0                             | 0    | 0    | 0     | 0                             | 48   | 0    | 0     | 0                         | 78   | 0    | 0     | 0                         | 0    | 0    | 0     | 126   | 502             | 0                    | 0    | 0     | 0     |
| 4:30 PM                | 0                             | 0    | 0    | 0     | 0                             | 63   | 0    | 0     | 1                         | 65   | 0    | 0     | 0                         | 0    | 0    | 0     | 129   | 512             | 0                    | 0    | 0     | 0     |
| 4:45 PM                | 0                             | 0    | 0    | 1     | 0                             | 53   | 1    | 0     | 0                         | 68   | 0    | 0     | 0                         | 0    | 0    | 0     | 123   | 533             | 0                    | 0    | 0     | 0     |
| 5:00 PM                | 0                             | 0    | 0    | 0     | 0                             | 69   | 0    | 0     | 1                         | 54   | 0    | 0     | 0                         | 0    | 0    | 0     | 124   | 551             | 0                    | 0    | 0     | 0     |
| 5:15 PM                | 0                             | 0    | 0    | 0     | 0                             | 48   | 0    | 0     | 3                         | 85   | 0    | 0     | 0                         | 0    | 0    | 0     | 136   |                 | 0                    | 0    | 0     | 0     |
| 5:30 PM                | 0                             | 0    | 0    | 0     | 0                             | 66   | 0    | 0     | 1                         | 82   | 0    | 1     | 0                         | 0    | 0    | 0     | 150   |                 | 0                    | 0    | 0     | 0     |
| 5:45 PM                | 0                             | 0    | 0    | 1     | 0                             | 62   | 0    | 0     | 0                         | 78   | 0    | 0     | 0                         | 0    | 0    | 0     | 141   |                 | 0                    | 0    | 0     | 0     |
| Count Total            | 0                             | 0    | 0    | 3     | 0                             | 470  | 1    | 0     | 7                         | 573  | 0    | 2     | 0                         | 0    | 0    | 0     | 1,056 |                 | 0                    | 0    | 0     | 0     |
| Peak Hour              | 0                             | 0    | 0    | 1     | 0                             | 245  | 0    | 0     | 5                         | 299  | 0    | 1     | 0                         | 0    | 0    | 0     | 551   |                 | 0                    | 0    | 0     | 0     |



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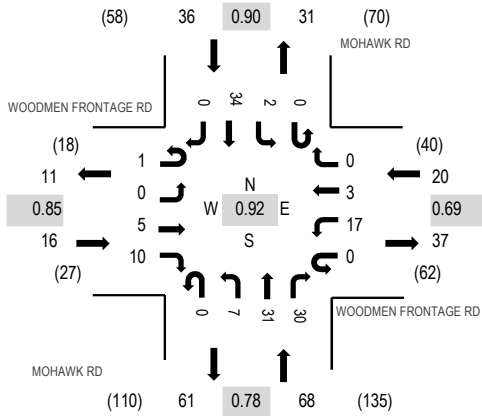
Location: 5 MOHAWK RD & WOODMEN FRONTAGE RD AM

Date: Wednesday, August 27, 2025

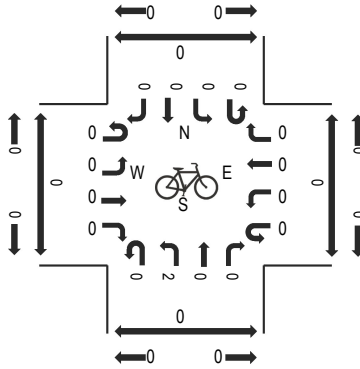
Peak Hour: 07:45 AM - 08:45 AM

Peak 15-Minutes: 08:30 AM - 08:45 AM

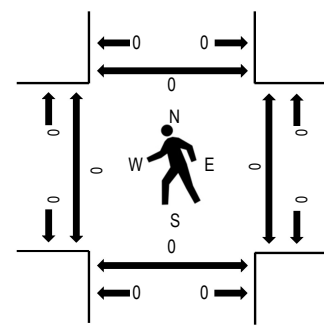
### Peak Hour - Motorized Vehicles



### Peak Hour - Bicycles



### Peak Hour - Pedestrians



Note: Total study counts contained in parentheses.

### Traffic Counts - Motorized Vehicles

| Interval<br>Start Time | WOODMEN FRONTAGE RD Eastbound |      |      |       | WOODMEN FRONTAGE RD Westbound |      |      |       | MOHAWK RD Northbound |      |      |       | MOHAWK RD Southbound |      |      |       | Total | Rolling<br>Hour | Pedestrian Crossings |      |       |       |
|------------------------|-------------------------------|------|------|-------|-------------------------------|------|------|-------|----------------------|------|------|-------|----------------------|------|------|-------|-------|-----------------|----------------------|------|-------|-------|
|                        | U-Turn                        | Left | Thru | Right | U-Turn                        | Left | Thru | Right | U-Turn               | Left | Thru | Right | U-Turn               | Left | Thru | Right |       |                 | West                 | East | South | North |
| 7:00 AM                | 0                             | 0    | 0    | 0     | 0                             | 6    | 0    | 0     | 1                    | 1    | 3    | 10    | 0                    | 0    | 7    | 0     | 28    | 131             | 0                    | 0    | 0     | 1     |
| 7:15 AM                | 0                             | 1    | 1    | 2     | 0                             | 6    | 1    | 0     | 0                    | 2    | 14   | 8     | 0                    | 0    | 4    | 0     | 39    | 138             | 0                    | 0    | 0     | 0     |
| 7:30 AM                | 1                             | 0    | 0    | 1     | 0                             | 4    | 0    | 0     | 0                    | 1    | 13   | 3     | 0                    | 0    | 8    | 0     | 31    | 133             | 0                    | 0    | 0     | 0     |
| 7:45 AM                | 0                             | 0    | 2    | 2     | 0                             | 3    | 0    | 0     | 0                    | 1    | 10   | 8     | 0                    | 0    | 7    | 0     | 33    | 140             | 0                    | 0    | 0     | 0     |
| 8:00 AM                | 1                             | 0    | 1    | 3     | 0                             | 6    | 2    | 0     | 0                    | 3    | 4    | 6     | 0                    | 2    | 7    | 0     | 35    | 129             | 0                    | 0    | 0     | 0     |
| 8:15 AM                | 0                             | 0    | 2    | 1     | 0                             | 3    | 0    | 0     | 0                    | 3    | 9    | 6     | 0                    | 0    | 10   | 0     | 34    |                 | 0                    | 0    | 0     | 0     |
| 8:30 AM                | 0                             | 0    | 0    | 4     | 0                             | 5    | 1    | 0     | 0                    | 0    | 8    | 10    | 0                    | 0    | 10   | 0     | 38    |                 | 0                    | 0    | 0     | 0     |
| 8:45 AM                | 0                             | 0    | 1    | 4     | 0                             | 3    | 0    | 0     | 0                    | 1    | 8    | 2     | 0                    | 0    | 3    | 0     | 22    |                 | 0                    | 0    | 0     | 0     |
| Count Total            | 2                             | 1    | 7    | 17    | 0                             | 36   | 4    | 0     | 1                    | 12   | 69   | 53    | 0                    | 2    | 56   | 0     | 260   |                 | 0                    | 0    | 0     | 1     |
| Peak Hour              | 1                             | 0    | 5    | 10    | 0                             | 17   | 3    | 0     | 0                    | 7    | 31   | 30    | 0                    | 2    | 34   | 0     | 140   |                 | 0                    | 0    | 0     | 0     |



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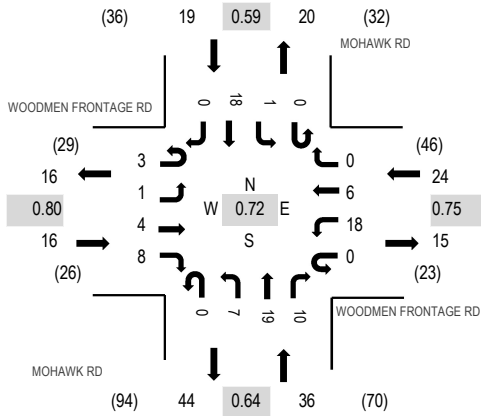
Location: 5 MOHAWK RD & WOODMEN FRONTAGE RD PM

Date: Wednesday, August 27, 2025

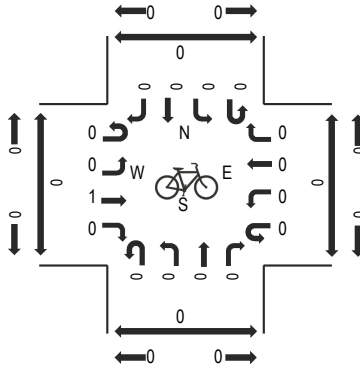
Peak Hour: 04:00 PM - 05:00 PM

Peak 15-Minutes: 04:15 PM - 04:30 PM

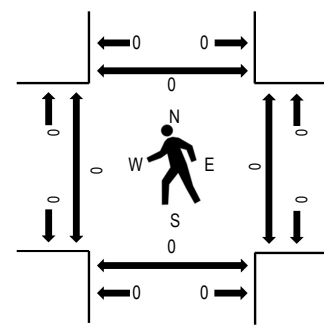
### Peak Hour - Motorized Vehicles



### Peak Hour - Bicycles



### Peak Hour - Pedestrians



Note: Total study counts contained in parentheses.

### Traffic Counts - Motorized Vehicles

| Interval<br>Start Time | WOODMEN FRONTAGE RD Eastbound |      |      |       | WOODMEN FRONTAGE RD Westbound |      |      |       | MOHAWK RD Northbound |      |      |       | MOHAWK RD Southbound |      |      |       | Total | Rolling<br>Hour | Pedestrian Crossings |      |       |       |
|------------------------|-------------------------------|------|------|-------|-------------------------------|------|------|-------|----------------------|------|------|-------|----------------------|------|------|-------|-------|-----------------|----------------------|------|-------|-------|
|                        | U-Turn                        | Left | Thru | Right | U-Turn                        | Left | Thru | Right | U-Turn               | Left | Thru | Right | U-Turn               | Left | Thru | Right |       |                 | West                 | East | South | North |
| 4:00 PM                | 0                             | 0    | 1    | 4     | 0                             | 4    | 4    | 0     | 0                    | 3    | 4    | 2     | 0                    | 1    | 7    | 0     | 30    | 95              | 0                    | 0    | 0     | 0     |
| 4:15 PM                | 3                             | 0    | 2    | 0     | 0                             | 7    | 1    | 0     | 0                    | 1    | 9    | 4     | 0                    | 0    | 6    | 0     | 33    | 84              | 0                    | 0    | 0     | 0     |
| 4:30 PM                | 0                             | 1    | 0    | 2     | 0                             | 5    | 1    | 0     | 0                    | 1    | 4    | 1     | 0                    | 0    | 3    | 0     | 18    | 74              | 0                    | 0    | 0     | 0     |
| 4:45 PM                | 0                             | 0    | 1    | 2     | 0                             | 2    | 0    | 0     | 0                    | 2    | 2    | 3     | 0                    | 0    | 2    | 0     | 14    | 78              | 0                    | 0    | 0     | 0     |
| 5:00 PM                | 0                             | 0    | 0    | 0     | 0                             | 3    | 0    | 0     | 1                    | 2    | 4    | 1     | 0                    | 0    | 8    | 0     | 19    | 83              | 0                    | 0    | 0     | 0     |
| 5:15 PM                | 0                             | 0    | 0    | 8     | 0                             | 5    | 0    | 0     | 0                    | 1    | 3    | 2     | 0                    | 0    | 4    | 0     | 23    |                 | 0                    | 0    | 0     | 0     |
| 5:30 PM                | 0                             | 0    | 0    | 1     | 0                             | 10   | 1    | 0     | 0                    | 2    | 3    | 2     | 0                    | 0    | 3    | 0     | 22    |                 | 0                    | 0    | 0     | 0     |
| 5:45 PM                | 0                             | 0    | 0    | 1     | 0                             | 3    | 0    | 0     | 1                    | 7    | 2    | 3     | 0                    | 0    | 2    | 0     | 19    |                 | 0                    | 0    | 0     | 0     |
| Count Total            | 3                             | 1    | 4    | 18    | 0                             | 39   | 7    | 0     | 2                    | 19   | 31   | 18    | 0                    | 1    | 35   | 0     | 178   |                 | 0                    | 0    | 0     | 0     |
| Peak Hour              | 3                             | 1    | 4    | 8     | 0                             | 18   | 6    | 0     | 0                    | 7    | 19   | 10    | 0                    | 1    | 18   | 0     | 95    |                 | 0                    | 0    | 0     | 0     |



# All Traffic Data Services

SITE 2\_E - E WOODMEN RD EAST OF BANNING LEWIS PKWY

| Time                  | EB      | WB      | Total   |
|-----------------------|---------|---------|---------|
| 8/27/2025             | 21      | 13      | 34      |
| 8/27/2025 12:15:00 AM | 24      | 6       | 30      |
| 8/27/2025 12:30:00 AM | 16      | 4       | 20      |
| 8/27/2025 12:45:00 AM | 16      | 7       | 23      |
| 8/27/2025 1:00:00 AM  | 7       | 5       | 12      |
| 8/27/2025 1:15:00 AM  | 12      | 4       | 16      |
| 8/27/2025 1:30:00 AM  | 6       | 6       | 12      |
| 8/27/2025 1:45:00 AM  | 12      | 10      | 22      |
| 8/27/2025 2:00:00 AM  | 7       | 5       | 12      |
| 8/27/2025 2:15:00 AM  | 4       | 12      | 16      |
| 8/27/2025 2:30:00 AM  | 6       | 7       | 13      |
| 8/27/2025 2:45:00 AM  | 7       | 2       | 9       |
| 8/27/2025 3:00:00 AM  | 8       | 10      | 18      |
| 8/27/2025 3:15:00 AM  | 8       | 9       | 17      |
| 8/27/2025 3:30:00 AM  | 9       | 13      | 22      |
| 8/27/2025 3:45:00 AM  | 11      | 18      | 29      |
| 8/27/2025 4:00:00 AM  | 12      | 20      | 32      |
| 8/27/2025 4:15:00 AM  | 8       | 25      | 33      |
| 8/27/2025 4:30:00 AM  | 17      | 41      | 58      |
| 8/27/2025 4:45:00 AM  | 33      | 53      | 86      |
| 8/27/2025 5:00:00 AM  | 30      | 67      | 97      |
| 8/27/2025 5:15:00 AM  | 44      | 100     | 144     |
| 8/27/2025 5:30:00 AM  | 59      | 124     | 183     |
| 8/27/2025 5:45:00 AM  | 65      | 125     | 190     |
| 8/27/2025 6:00:00 AM  | 79      | 177     | 256     |
| 8/27/2025 6:15:00 AM  | 120     | 261     | 381     |
| 8/27/2025 6:30:00 AM  | 177     | 358     | 535     |
| 8/27/2025 6:45:00 AM  | 261     | 387     | 648     |
| 8/27/2025 7:00:00 AM  | 264     | 468     | 732     |
| 8/27/2025 7:15:00 AM  | 253     | 554     | 807     |
| 8/27/2025 7:30:00 AM  | 269     | 530     | 799     |
| 8/27/2025 7:45:00 AM  | 293     | 475     | 768     |
| 8/27/2025 8:00:00 AM  | 264     | 354     | 618     |
| 8/27/2025 8:15:00 AM  | 274     | 338     | 612     |
| 8/27/2025 8:30:00 AM  | 262     | 367     | 629     |
| 8/27/2025 8:45:00 AM  | 229     | 312     | 541     |
| 8/27/2025 9:00:00 AM  | 206     | 270     | 476     |
| 8/27/2025 9:15:00 AM  | 201     | 305     | 506     |
| 8/27/2025 9:30:00 AM  | 187     | 314     | 501     |
| 8/27/2025 9:45:00 AM  | 196     | 260     | 456     |
| 8/27/2025 10:00:00 AM | 195     | 247     | 442     |
| 8/27/2025 10:15:00 AM | 229     | 278     | 507     |
| 8/27/2025 10:30:00 AM | 229     | 277     | 506     |
| 8/27/2025 10:45:00 AM | 230     | 248     | 478     |
| 8/27/2025 11:00:00 AM | 233     | 262     | 495     |
| 8/27/2025 11:15:00 AM | 215     | 263     | 478     |
| 8/27/2025 11:30:00 AM | 261     | 253     | 514     |
| 8/27/2025 11:45:00 AM | 260     | 246     | 506     |
| Total                 | 5,829   | 8,490   | 14,319  |
| Percentage            | 40.7%   | 59.3%   |         |
| Peak Hour             | 7:30 AM | 7:00 AM | 7:00 AM |
| Volume                | 1,100   | 2,027   | 3,106   |
| PHF                   | 0.939   | 0.915   | 0.962   |



# All Traffic Data Services

SITE 2\_E - E WOODMEN RD EAST OF BANNING LEWIS PKWY

| Time                  | EB      | WB      | Total   |
|-----------------------|---------|---------|---------|
| 8/27/2025 12:00:00 PM | 292     | 289     | 581     |
| 8/27/2025 12:15:00 PM | 295     | 262     | 557     |
| 8/27/2025 12:30:00 PM | 269     | 254     | 523     |
| 8/27/2025 12:45:00 PM | 295     | 248     | 543     |
| 8/27/2025 1:00:00 PM  | 238     | 263     | 501     |
| 8/27/2025 1:15:00 PM  | 288     | 246     | 534     |
| 8/27/2025 1:30:00 PM  | 291     | 255     | 546     |
| 8/27/2025 1:45:00 PM  | 273     | 241     | 514     |
| 8/27/2025 2:00:00 PM  | 286     | 238     | 524     |
| 8/27/2025 2:15:00 PM  | 301     | 295     | 596     |
| 8/27/2025 2:30:00 PM  | 329     | 282     | 611     |
| 8/27/2025 2:45:00 PM  | 346     | 279     | 625     |
| 8/27/2025 3:00:00 PM  | 335     | 330     | 665     |
| 8/27/2025 3:15:00 PM  | 491     | 347     | 838     |
| 8/27/2025 3:30:00 PM  | 422     | 371     | 793     |
| 8/27/2025 3:45:00 PM  | 508     | 423     | 931     |
| 8/27/2025 4:00:00 PM  | 411     | 367     | 778     |
| 8/27/2025 4:15:00 PM  | 417     | 384     | 801     |
| 8/27/2025 4:30:00 PM  | 425     | 373     | 798     |
| 8/27/2025 4:45:00 PM  | 397     | 351     | 748     |
| 8/27/2025 5:00:00 PM  | 356     | 367     | 723     |
| 8/27/2025 5:15:00 PM  | 438     | 312     | 750     |
| 8/27/2025 5:30:00 PM  | 422     | 315     | 737     |
| 8/27/2025 5:45:00 PM  | 404     | 335     | 739     |
| 8/27/2025 6:00:00 PM  | 374     | 292     | 666     |
| 8/27/2025 6:15:00 PM  | 388     | 221     | 609     |
| 8/27/2025 6:30:00 PM  | 341     | 214     | 555     |
| 8/27/2025 6:45:00 PM  | 328     | 213     | 541     |
| 8/27/2025 7:00:00 PM  | 227     | 187     | 414     |
| 8/27/2025 7:15:00 PM  | 295     | 167     | 462     |
| 8/27/2025 7:30:00 PM  | 239     | 151     | 390     |
| 8/27/2025 7:45:00 PM  | 230     | 152     | 382     |
| 8/27/2025 8:00:00 PM  | 178     | 173     | 351     |
| 8/27/2025 8:15:00 PM  | 230     | 144     | 374     |
| 8/27/2025 8:30:00 PM  | 252     | 90      | 342     |
| 8/27/2025 8:45:00 PM  | 191     | 81      | 272     |
| 8/27/2025 9:00:00 PM  | 139     | 59      | 198     |
| 8/27/2025 9:15:00 PM  | 139     | 83      | 222     |
| 8/27/2025 9:30:00 PM  | 101     | 47      | 148     |
| 8/27/2025 9:45:00 PM  | 89      | 45      | 134     |
| 8/27/2025 10:00:00 PM | 74      | 35      | 109     |
| 8/27/2025 10:15:00 PM | 74      | 38      | 112     |
| 8/27/2025 10:30:00 PM | 67      | 37      | 104     |
| 8/27/2025 10:45:00 PM | 44      | 22      | 66      |
| 8/27/2025 11:00:00 PM | 36      | 30      | 66      |
| 8/27/2025 11:15:00 PM | 33      | 21      | 54      |
| 8/27/2025 11:30:00 PM | 35      | 11      | 46      |
| 8/27/2025 11:45:00 PM | 32      | 12      | 44      |
| Total                 | 12,665  | 9,952   | 22,617  |
| Percentage            | 56.0%   | 44.0%   |         |
| Peak Hour             | 3:15 PM | 3:45 PM | 3:15 PM |
| Volume                | 1,832   | 1,547   | 3,340   |
| PHF                   | 0.902   | 0.914   | 0.897   |
| Grand Total           | 18,494  | 18,442  | 36,936  |
| Percentage            | 50.1%   | 49.9%   |         |

## **APPENDIX B**

### **Level of Service Definitions**

The following information is referenced from the Highway Capacity Manual: A Guide for Multimodal Mobility Analysis, 7<sup>th</sup> Edition, Transportation Research Board, 2022: Chapter 19 – Signalized Intersections.

### **Motorized Vehicle Level of Service (LOS) for Signalized Intersections**

Levels of service are defined to represent reasonable ranges in control delay.

**LOS A** Describes operations with a control delay of 10 s/veh or less 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 it is due to favorable progression, most vehicles arrive during the green indication and travel through the intersection without stopping.

**LOS 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.

**LOS C** 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.

**LOS 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.

**LOS 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.

**LOS F** 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.

| Control Delay<br>(s/veh) | LOS by Volume-to-Capacity Ratio <sup>a</sup> |             |
|--------------------------|----------------------------------------------|-------------|
|                          | $v/c \leq 1.0$                               | $v/c > 1.0$ |
| $\leq 10$                | A                                            | F           |
| $> 10 - 20$              | B                                            | F           |
| $> 20 - 35$              | C                                            | F           |
| $> 35 - 55$              | D                                            | F           |
| $> 55 - 80$              | E                                            | F           |
| $> 80$                   | F                                            | F           |

Note: <sup>a</sup> For approach-based and intersectionwide assessments, LOS is defined solely by control delay.

The following information is referenced from the Highway Capacity Manual: A Guide for Multimodal Mobility Analysis, 7<sup>th</sup> Edition, Transportation Research Board, 2022: Chapter 20 – Two-Way Stop-Controlled Intersections, Chapter 21 – All-Way Stop-Controlled Intersections, and Chapter 22 - Roundabouts.

### **Motorized Vehicle Level of Service (LOS) for Unsignalized & Roundabout Intersections**

LOS is a quantitative stratification of performance measure(s) representing quality of service. Quality of service describes how well a transportation facility or service operates from a traveler's perspective. LOS is measured on an A – F scale, with LOS A representing the best operating conditions from a traveler's perspective.

| Control Delay<br>(s/veh) | <u>LOS by Volume-to-Capacity Ratio<sup>a</sup></u> |             |
|--------------------------|----------------------------------------------------|-------------|
|                          | $v/c \leq 1.0$                                     | $v/c > 1.0$ |
| 0 – 10                   | A                                                  | F           |
| > 10 – 15                | B                                                  | F           |
| > 15 – 25                | C                                                  | F           |
| > 25 – 35                | D                                                  | F           |
| > 35 – 50                | E                                                  | F           |
| > 50                     | F                                                  | F           |

Note: The 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.

<sup>a</sup> For approaches and intersectionwide assessment, LOS is defined solely by control delay.

## **APPENDIX C**

### **Capacity Worksheets**

# Timings

1: Mohawk Road & E Woodmen Road

Existing Traffic Conditions

AM Peak Traffic Hour

|                                                            |  |  |  |  |  |  |  |  |  |  |  |  |
|------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Lane Group                                                 | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | WBR                                                                               | NBL                                                                                 | NBT                                                                                 | NBR                                                                                 | SBL                                                                                 | SBT                                                                                 | SBR                                                                                 |
| Lane Configurations                                        |  |  |  |  |  |  |                                                                                     |  |                                                                                     |  |  |                                                                                     |
| Traffic Volume (vph)                                       | 54                                                                                | 1054                                                                              | 5                                                                                 | 1                                                                                 | 2053                                                                              | 22                                                                                | 1                                                                                   | 5                                                                                   | 5                                                                                   | 19                                                                                  | 5                                                                                   | 30                                                                                  |
| Future Volume (vph)                                        | 54                                                                                | 1054                                                                              | 5                                                                                 | 1                                                                                 | 2053                                                                              | 22                                                                                | 1                                                                                   | 5                                                                                   | 5                                                                                   | 19                                                                                  | 5                                                                                   | 30                                                                                  |
| Satd. Flow (prot)                                          | 1770                                                                              | 5085                                                                              | 1583                                                                              | 1770                                                                              | 5085                                                                              | 1583                                                                              | 0                                                                                   | 1740                                                                                | 0                                                                                   | 1770                                                                                | 1621                                                                                | 0                                                                                   |
| Flt Permitted                                              | 0.068                                                                             |                                                                                   |                                                                                   | 0.236                                                                             |                                                                                   |                                                                                   |                                                                                     | 0.965                                                                               |                                                                                     | 0.750                                                                               |                                                                                     |                                                                                     |
| Satd. Flow (perm)                                          | 127                                                                               | 5085                                                                              | 1583                                                                              | 440                                                                               | 5085                                                                              | 1583                                                                              | 0                                                                                   | 1688                                                                                | 0                                                                                   | 1397                                                                                | 1621                                                                                | 0                                                                                   |
| Satd. Flow (RTOR)                                          |                                                                                   |                                                                                   | 18                                                                                |                                                                                   |                                                                                   | 24                                                                                |                                                                                     | 5                                                                                   |                                                                                     |                                                                                     | 32                                                                                  |                                                                                     |
| Lane Group Flow (vph)                                      | 59                                                                                | 1146                                                                              | 5                                                                                 | 1                                                                                 | 2232                                                                              | 24                                                                                | 0                                                                                   | 11                                                                                  | 0                                                                                   | 21                                                                                  | 38                                                                                  | 0                                                                                   |
| Turn Type                                                  | Perm                                                                              | NA                                                                                | Perm                                                                              | Perm                                                                              | NA                                                                                | Perm                                                                              | Perm                                                                                | NA                                                                                  |                                                                                     | Perm                                                                                | NA                                                                                  |                                                                                     |
| Protected Phases                                           |                                                                                   | 2                                                                                 |                                                                                   |                                                                                   | 6                                                                                 |                                                                                   |                                                                                     | 8                                                                                   |                                                                                     |                                                                                     | 4                                                                                   |                                                                                     |
| Permitted Phases                                           | 2                                                                                 |                                                                                   | 2                                                                                 | 6                                                                                 |                                                                                   | 6                                                                                 | 8                                                                                   |                                                                                     |                                                                                     | 4                                                                                   |                                                                                     |                                                                                     |
| Detector Phase                                             | 2                                                                                 | 2                                                                                 | 2                                                                                 | 6                                                                                 | 6                                                                                 | 6                                                                                 | 8                                                                                   | 8                                                                                   |                                                                                     | 4                                                                                   | 4                                                                                   |                                                                                     |
| Switch Phase                                               |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Minimum Initial (s)                                        | 5.0                                                                               | 5.0                                                                               | 5.0                                                                               | 5.0                                                                               | 5.0                                                                               | 5.0                                                                               | 5.0                                                                                 | 5.0                                                                                 |                                                                                     | 5.0                                                                                 | 5.0                                                                                 |                                                                                     |
| Minimum Split (s)                                          | 11.0                                                                              | 11.0                                                                              | 11.0                                                                              | 11.0                                                                              | 11.0                                                                              | 11.0                                                                              | 10.0                                                                                | 10.0                                                                                |                                                                                     | 10.0                                                                                | 10.0                                                                                |                                                                                     |
| Total Split (s)                                            | 109.0                                                                             | 109.0                                                                             | 109.0                                                                             | 109.0                                                                             | 109.0                                                                             | 109.0                                                                             | 11.0                                                                                | 11.0                                                                                |                                                                                     | 11.0                                                                                | 11.0                                                                                |                                                                                     |
| Total Split (%)                                            | 90.8%                                                                             | 90.8%                                                                             | 90.8%                                                                             | 90.8%                                                                             | 90.8%                                                                             | 90.8%                                                                             | 9.2%                                                                                | 9.2%                                                                                |                                                                                     | 9.2%                                                                                | 9.2%                                                                                |                                                                                     |
| Yellow Time (s)                                            | 4.0                                                                               | 4.0                                                                               | 4.0                                                                               | 4.0                                                                               | 4.0                                                                               | 4.0                                                                               | 3.0                                                                                 | 3.0                                                                                 |                                                                                     | 3.0                                                                                 | 3.0                                                                                 |                                                                                     |
| All-Red Time (s)                                           | 2.0                                                                               | 2.0                                                                               | 2.0                                                                               | 2.0                                                                               | 2.0                                                                               | 2.0                                                                               | 2.0                                                                                 | 2.0                                                                                 |                                                                                     | 2.0                                                                                 | 2.0                                                                                 |                                                                                     |
| Lost Time Adjust (s)                                       | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               |                                                                                     | 0.0                                                                                 |                                                                                     | 0.0                                                                                 | 0.0                                                                                 |                                                                                     |
| Total Lost Time (s)                                        | 6.0                                                                               | 6.0                                                                               | 6.0                                                                               | 6.0                                                                               | 6.0                                                                               | 6.0                                                                               |                                                                                     | 5.0                                                                                 |                                                                                     | 5.0                                                                                 | 5.0                                                                                 |                                                                                     |
| Lead/Lag                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Lead-Lag Optimize?                                         |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Recall Mode                                                | C-Max                                                                             | C-Max                                                                             | C-Max                                                                             | Max                                                                               | Max                                                                               | Max                                                                               | Max                                                                                 | Max                                                                                 |                                                                                     | Max                                                                                 | Max                                                                                 |                                                                                     |
| Act Effect Green (s)                                       | 103.0                                                                             | 103.0                                                                             | 103.0                                                                             | 103.0                                                                             | 103.0                                                                             | 103.0                                                                             |                                                                                     | 6.0                                                                                 |                                                                                     | 6.0                                                                                 | 6.0                                                                                 |                                                                                     |
| Actuated g/C Ratio                                         | 0.86                                                                              | 0.86                                                                              | 0.86                                                                              | 0.86                                                                              | 0.86                                                                              | 0.86                                                                              |                                                                                     | 0.05                                                                                |                                                                                     | 0.05                                                                                | 0.05                                                                                |                                                                                     |
| v/c Ratio                                                  | 0.54                                                                              | 0.26                                                                              | 0.00                                                                              | 0.00                                                                              | 0.51                                                                              | 0.02                                                                              |                                                                                     | 0.12                                                                                |                                                                                     | 0.30                                                                                | 0.34                                                                                |                                                                                     |
| Control Delay (s/veh)                                      | 23.5                                                                              | 1.7                                                                               | 0.2                                                                               | 3.0                                                                               | 4.3                                                                               | 1.4                                                                               |                                                                                     | 44.6                                                                                |                                                                                     | 66.7                                                                                | 30.7                                                                                |                                                                                     |
| Queue Delay                                                | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               |                                                                                     | 0.0                                                                                 |                                                                                     | 0.0                                                                                 | 0.0                                                                                 |                                                                                     |
| Total Delay (s/veh)                                        | 23.5                                                                              | 1.7                                                                               | 0.2                                                                               | 3.0                                                                               | 4.3                                                                               | 1.4                                                                               |                                                                                     | 44.6                                                                                |                                                                                     | 66.7                                                                                | 30.7                                                                                |                                                                                     |
| LOS                                                        | C                                                                                 | A                                                                                 | A                                                                                 | A                                                                                 | A                                                                                 | A                                                                                 |                                                                                     | D                                                                                   |                                                                                     | E                                                                                   | C                                                                                   |                                                                                     |
| Approach Delay (s/veh)                                     |                                                                                   | 2.8                                                                               |                                                                                   |                                                                                   | 4.3                                                                               |                                                                                   |                                                                                     | 44.6                                                                                |                                                                                     |                                                                                     | 43.5                                                                                |                                                                                     |
| Approach LOS                                               |                                                                                   | A                                                                                 |                                                                                   |                                                                                   | A                                                                                 |                                                                                   |                                                                                     | D                                                                                   |                                                                                     |                                                                                     | D                                                                                   |                                                                                     |
| Queue Length 50th (ft)                                     | 8                                                                                 | 41                                                                                | 0                                                                                 | 0                                                                                 | 107                                                                               | 0                                                                                 |                                                                                     | 5                                                                                   |                                                                                     | 16                                                                                  | 5                                                                                   |                                                                                     |
| Queue Length 95th (ft)                                     | #98                                                                               | 49                                                                                | 1                                                                                 | m0                                                                                | 341                                                                               | m6                                                                                |                                                                                     | 25                                                                                  |                                                                                     | 44                                                                                  | 41                                                                                  |                                                                                     |
| Internal Link Dist (ft)                                    |                                                                                   | 2474                                                                              |                                                                                   |                                                                                   | 750                                                                               |                                                                                   |                                                                                     | 6246                                                                                |                                                                                     |                                                                                     | 419                                                                                 |                                                                                     |
| Turn Bay Length (ft)                                       | 300                                                                               |                                                                                   | 400                                                                               | 315                                                                               |                                                                                   | 370                                                                               |                                                                                     |                                                                                     |                                                                                     | 50                                                                                  |                                                                                     |                                                                                     |
| Base Capacity (vph)                                        | 109                                                                               | 4364                                                                              | 1361                                                                              | 377                                                                               | 4364                                                                              | 1362                                                                              |                                                                                     | 89                                                                                  |                                                                                     | 69                                                                                  | 111                                                                                 |                                                                                     |
| 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                                                                                   |                                                                                     |
| Reduced v/c Ratio                                          | 0.54                                                                              | 0.26                                                                              | 0.00                                                                              | 0.00                                                                              | 0.51                                                                              | 0.02                                                                              |                                                                                     | 0.12                                                                                |                                                                                     | 0.30                                                                                | 0.34                                                                                |                                                                                     |
| Intersection Summary                                       |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Cycle Length: 120                                          |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Actuated Cycle Length: 120                                 |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Offset: 0 (0%), Referenced to phase 2:EBTL, Start of Green |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Natural Cycle: 60                                          |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Control Type: Actuated-Coordinated                         |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |

|                                                                   |                        |
|-------------------------------------------------------------------|------------------------|
| Maximum v/c Ratio: 0.54                                           |                        |
| Intersection Signal Delay (s/veh): 4.5                            | Intersection LOS: A    |
| Intersection Capacity Utilization 60.7%                           | ICU Level of Service B |
| Analysis Period (min) 15                                          |                        |
| # 95th percentile volume exceeds capacity, queue may be longer.   |                        |
| Queue shown is maximum after two cycles.                          |                        |
| m Volume for 95th percentile queue is metered by upstream signal. |                        |

Splits and Phases: 1: Mohawk Road & E Woodmen Road



# Timings

## 2: Banning Lewis Parkway & E Woodmen Road

# Existing Traffic Conditions

## AM Peak Traffic Hour

|                         |  |  |  |  |  |  |  |  |  |  |  |  |
|-------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Lane Group              | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | WBR                                                                               | NBL                                                                                 | NBT                                                                                 | NBR                                                                                 | SBL                                                                                 | SBT                                                                                 | SBR                                                                                 |
| Lane Configurations     |  |  |  |  |  |  |  |  |  |  |  |  |
| Traffic Volume (vph)    | 11                                                                                | 941                                                                               | 123                                                                               | 167                                                                               | 1858                                                                              | 2                                                                                 | 218                                                                                 | 3                                                                                   | 135                                                                                 | 5                                                                                   | 2                                                                                   | 5                                                                                   |
| Future Volume (vph)     | 11                                                                                | 941                                                                               | 123                                                                               | 167                                                                               | 1858                                                                              | 2                                                                                 | 218                                                                                 | 3                                                                                   | 135                                                                                 | 5                                                                                   | 2                                                                                   | 5                                                                                   |
| Satd. Flow (prot)       | 3433                                                                              | 5085                                                                              | 1583                                                                              | 3433                                                                              | 5085                                                                              | 1583                                                                              | 3433                                                                                | 5085                                                                                | 1583                                                                                | 3433                                                                                | 5085                                                                                | 1583                                                                                |
| Flt Permitted           | 0.950                                                                             |                                                                                   |                                                                                   | 0.950                                                                             |                                                                                   |                                                                                   | 0.950                                                                               |                                                                                     |                                                                                     | 0.950                                                                               |                                                                                     |                                                                                     |
| Satd. Flow (perm)       | 3433                                                                              | 5085                                                                              | 1583                                                                              | 3433                                                                              | 5085                                                                              | 1583                                                                              | 3433                                                                                | 5085                                                                                | 1583                                                                                | 3433                                                                                | 5085                                                                                | 1583                                                                                |
| Satd. Flow (RTOR)       |                                                                                   |                                                                                   | 382                                                                               |                                                                                   |                                                                                   | 382                                                                               |                                                                                     |                                                                                     | 382                                                                                 |                                                                                     |                                                                                     | 382                                                                                 |
| Lane Group Flow (vph)   | 12                                                                                | 1023                                                                              | 134                                                                               | 182                                                                               | 2020                                                                              | 2                                                                                 | 237                                                                                 | 3                                                                                   | 147                                                                                 | 5                                                                                   | 2                                                                                   | 5                                                                                   |
| Turn Type               | Prot                                                                              | NA                                                                                | Free                                                                              | Prot                                                                              | NA                                                                                | Free                                                                              | Prot                                                                                | NA                                                                                  | Free                                                                                | Prot                                                                                | NA                                                                                  | Free                                                                                |
| Protected Phases        | 5                                                                                 | 2                                                                                 |                                                                                   | 1                                                                                 | 6                                                                                 |                                                                                   | 7                                                                                   | 4                                                                                   |                                                                                     | 3                                                                                   | 8                                                                                   |                                                                                     |
| Permitted Phases        |                                                                                   |                                                                                   | Free                                                                              |                                                                                   |                                                                                   | Free                                                                              |                                                                                     |                                                                                     | Free                                                                                |                                                                                     |                                                                                     | Free                                                                                |
| Detector Phase          | 5                                                                                 | 2                                                                                 |                                                                                   | 1                                                                                 | 6                                                                                 |                                                                                   | 7                                                                                   | 4                                                                                   |                                                                                     | 3                                                                                   | 8                                                                                   |                                                                                     |
| Switch Phase            |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Minimum Initial (s)     | 5.0                                                                               | 5.0                                                                               |                                                                                   | 5.0                                                                               | 5.0                                                                               |                                                                                   | 5.0                                                                                 | 5.0                                                                                 |                                                                                     | 5.0                                                                                 | 5.0                                                                                 |                                                                                     |
| Minimum Split (s)       | 11.0                                                                              | 11.0                                                                              |                                                                                   | 11.0                                                                              | 11.0                                                                              |                                                                                   | 11.0                                                                                | 11.0                                                                                |                                                                                     | 11.0                                                                                | 11.0                                                                                |                                                                                     |
| Total Split (s)         | 11.0                                                                              | 25.0                                                                              |                                                                                   | 13.0                                                                              | 27.0                                                                              |                                                                                   | 11.0                                                                                | 11.0                                                                                |                                                                                     | 11.0                                                                                | 11.0                                                                                |                                                                                     |
| Total Split (%)         | 18.3%                                                                             | 41.7%                                                                             |                                                                                   | 21.7%                                                                             | 45.0%                                                                             |                                                                                   | 18.3%                                                                               | 18.3%                                                                               |                                                                                     | 18.3%                                                                               | 18.3%                                                                               |                                                                                     |
| Yellow Time (s)         | 4.0                                                                               | 4.0                                                                               |                                                                                   | 4.0                                                                               | 4.0                                                                               |                                                                                   | 4.0                                                                                 | 4.0                                                                                 |                                                                                     | 4.0                                                                                 | 4.0                                                                                 |                                                                                     |
| All-Red Time (s)        | 2.0                                                                               | 2.0                                                                               |                                                                                   | 2.0                                                                               | 2.0                                                                               |                                                                                   | 2.0                                                                                 | 2.0                                                                                 |                                                                                     | 2.0                                                                                 | 2.0                                                                                 |                                                                                     |
| Lost Time Adjust (s)    | 0.0                                                                               | 0.0                                                                               |                                                                                   | 0.0                                                                               | 0.0                                                                               |                                                                                   | 0.0                                                                                 | 0.0                                                                                 |                                                                                     | 0.0                                                                                 | 0.0                                                                                 |                                                                                     |
| Total Lost Time (s)     | 6.0                                                                               | 6.0                                                                               |                                                                                   | 6.0                                                                               | 6.0                                                                               |                                                                                   | 6.0                                                                                 | 6.0                                                                                 |                                                                                     | 6.0                                                                                 | 6.0                                                                                 |                                                                                     |
| Lead/Lag                | Lead                                                                              | Lag                                                                               |                                                                                   | Lead                                                                              | Lag                                                                               |                                                                                   | Lead                                                                                | Lag                                                                                 |                                                                                     | Lead                                                                                | Lag                                                                                 |                                                                                     |
| Lead-Lag Optimize?      | Yes                                                                               | Yes                                                                               |                                                                                   | Yes                                                                               | Yes                                                                               |                                                                                   | Yes                                                                                 | Yes                                                                                 |                                                                                     | Yes                                                                                 | Yes                                                                                 |                                                                                     |
| Recall Mode             | None                                                                              | C-Max                                                                             |                                                                                   | None                                                                              | C-Max                                                                             |                                                                                   | None                                                                                | None                                                                                |                                                                                     | None                                                                                | None                                                                                |                                                                                     |
| Act Effect Green (s)    | 5.5                                                                               | 26.6                                                                              | 60.0                                                                              | 7.7                                                                               | 38.2                                                                              | 60.0                                                                              | 5.4                                                                                 | 5.4                                                                                 | 60.0                                                                                | 5.0                                                                                 | 5.0                                                                                 | 60.0                                                                                |
| Actuated g/C Ratio      | 0.09                                                                              | 0.44                                                                              | 1.00                                                                              | 0.13                                                                              | 0.64                                                                              | 1.00                                                                              | 0.09                                                                                | 0.09                                                                                | 1.00                                                                                | 0.08                                                                                | 0.08                                                                                | 1.00                                                                                |
| v/c Ratio               | 0.04                                                                              | 0.45                                                                              | 0.08                                                                              | 0.41                                                                              | 0.62                                                                              | 0.00                                                                              | 0.76                                                                                | 0.01                                                                                | 0.09                                                                                | 0.02                                                                                | 0.00                                                                                | 0.00                                                                                |
| Control Delay (s/veh)   | 27.7                                                                              | 11.7                                                                              | 0.1                                                                               | 22.0                                                                              | 14.8                                                                              | 0.0                                                                               | 46.1                                                                                | 25.0                                                                                | 0.1                                                                                 | 25.4                                                                                | 25.5                                                                                | 0.0                                                                                 |
| 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                                                                                 |
| Total Delay (s/veh)     | 27.7                                                                              | 11.7                                                                              | 0.1                                                                               | 22.0                                                                              | 14.8                                                                              | 0.0                                                                               | 46.1                                                                                | 25.0                                                                                | 0.1                                                                                 | 25.4                                                                                | 25.5                                                                                | 0.0                                                                                 |
| LOS                     | C                                                                                 | B                                                                                 | A                                                                                 | C                                                                                 | B                                                                                 | A                                                                                 | D                                                                                   | C                                                                                   | A                                                                                   | C                                                                                   | C                                                                                   | A                                                                                   |
| Approach Delay (s/veh)  |                                                                                   | 10.5                                                                              |                                                                                   |                                                                                   | 15.3                                                                              |                                                                                   |                                                                                     | 28.5                                                                                |                                                                                     |                                                                                     | 14.8                                                                                |                                                                                     |
| Approach LOS            |                                                                                   | B                                                                                 |                                                                                   |                                                                                   | B                                                                                 |                                                                                   |                                                                                     | C                                                                                   |                                                                                     |                                                                                     | B                                                                                   |                                                                                     |
| Queue Length 50th (ft)  | 2                                                                                 | 89                                                                                | 0                                                                                 | 35                                                                                | 175                                                                               | 0                                                                                 | 44                                                                                  | 0                                                                                   | 0                                                                                   | 1                                                                                   | 0                                                                                   | 0                                                                                   |
| Queue Length 95th (ft)  | 6                                                                                 | 142                                                                               | 0                                                                                 | m44                                                                               | #391                                                                              | m0                                                                                | #98                                                                                 | 2                                                                                   | 0                                                                                   | 5                                                                                   | 2                                                                                   | 0                                                                                   |
| Internal Link Dist (ft) |                                                                                   | 712                                                                               |                                                                                   |                                                                                   | 722                                                                               |                                                                                   |                                                                                     | 667                                                                                 |                                                                                     |                                                                                     | 695                                                                                 |                                                                                     |
| Turn Bay Length (ft)    | 285                                                                               |                                                                                   |                                                                                   | 285                                                                               |                                                                                   | 225                                                                               | 185                                                                                 |                                                                                     | 185                                                                                 | 185                                                                                 |                                                                                     | 185                                                                                 |
| Base Capacity (vph)     | 314                                                                               | 2257                                                                              | 1583                                                                              | 451                                                                               | 3235                                                                              | 1583                                                                              | 310                                                                                 | 459                                                                                 | 1583                                                                                | 286                                                                                 | 423                                                                                 | 1583                                                                                |
| Starvation Cap Reductn  | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                   | 0                                                                                   | 0                                                                                   | 0                                                                                   | 0                                                                                   | 0                                                                                   |
| Spillback Cap Reductn   | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                   | 0                                                                                   | 0                                                                                   | 0                                                                                   | 0                                                                                   | 0                                                                                   |
| Storage Cap Reductn     | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                   | 0                                                                                   | 0                                                                                   | 0                                                                                   | 0                                                                                   | 0                                                                                   |
| Reduced v/c Ratio       | 0.04                                                                              | 0.45                                                                              | 0.08                                                                              | 0.40                                                                              | 0.62                                                                              | 0.00                                                                              | 0.76                                                                                | 0.01                                                                                | 0.09                                                                                | 0.02                                                                                | 0.00                                                                                | 0.00                                                                                |

### Intersection Summary

Cycle Length: 60

Actuated Cycle Length: 60

Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Green

Natural Cycle: 65

Control Type: Actuated-Coordinated

Timings  
 2: Banning Lewis Parkway & E Woodmen Road

Existing Traffic Conditions  
 AM Peak Traffic Hour

Maximum v/c Ratio: 0.76

Intersection Signal Delay (s/veh): 15.2

Intersection LOS: B

Intersection Capacity Utilization 68.0%

ICU Level of Service C

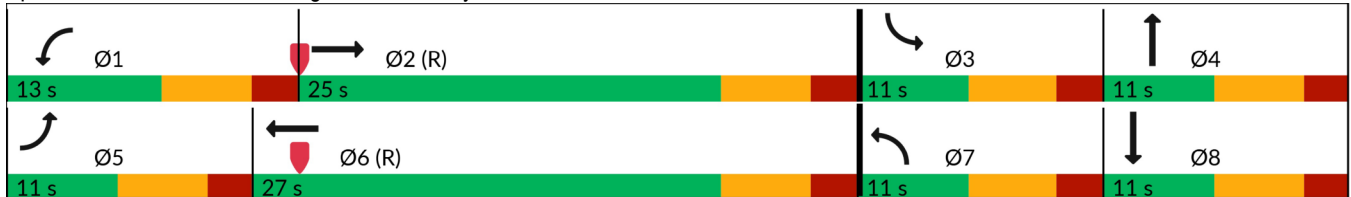
Analysis Period (min) 15

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

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 2: Banning Lewis Parkway & E Woodmen Road



Timings

3: Golden Sage Road & E Woodmen Road

Existing Traffic Conditions

AM Peak Traffic Hour

|                                                                       |  |  |  |  |  |  |  |  |  |  |  |  |
|-----------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Lane Group                                                            | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | WBR                                                                               | NBL                                                                                 | NBT                                                                                 | NBR                                                                                 | SBL                                                                                 | SBT                                                                                 | SBR                                                                                 |
| Lane Configurations                                                   |  |  |  |  |  |  |  |  |  |  |  |  |
| Traffic Volume (vph)                                                  | 120                                                                               | 907                                                                               | 50                                                                                | 14                                                                                | 1593                                                                              | 5                                                                                 | 118                                                                                 | 2                                                                                   | 9                                                                                   | 14                                                                                  | 8                                                                                   | 308                                                                                 |
| Future Volume (vph)                                                   | 120                                                                               | 907                                                                               | 50                                                                                | 14                                                                                | 1593                                                                              | 5                                                                                 | 118                                                                                 | 2                                                                                   | 9                                                                                   | 14                                                                                  | 8                                                                                   | 308                                                                                 |
| Satd. Flow (prot)                                                     | 1770                                                                              | 3539                                                                              | 1583                                                                              | 1770                                                                              | 5085                                                                              | 1583                                                                              | 1770                                                                                | 1863                                                                                | 1583                                                                                | 1770                                                                                | 1591                                                                                | 0                                                                                   |
| Flt Permitted                                                         | 0.148                                                                             |                                                                                   |                                                                                   | 0.238                                                                             |                                                                                   |                                                                                   | 0.346                                                                               |                                                                                     |                                                                                     | 0.757                                                                               |                                                                                     |                                                                                     |
| Satd. Flow (perm)                                                     | 276                                                                               | 3539                                                                              | 1583                                                                              | 443                                                                               | 5085                                                                              | 1583                                                                              | 645                                                                                 | 1863                                                                                | 1583                                                                                | 1410                                                                                | 1591                                                                                | 0                                                                                   |
| Satd. Flow (RTOR)                                                     |                                                                                   |                                                                                   | 145                                                                               |                                                                                   |                                                                                   | 145                                                                               |                                                                                     |                                                                                     | 255                                                                                 |                                                                                     | 196                                                                                 |                                                                                     |
| Lane Group Flow (vph)                                                 | 130                                                                               | 986                                                                               | 54                                                                                | 15                                                                                | 1732                                                                              | 5                                                                                 | 128                                                                                 | 2                                                                                   | 10                                                                                  | 15                                                                                  | 344                                                                                 | 0                                                                                   |
| Turn Type                                                             | pm+pt                                                                             | NA                                                                                | Perm                                                                              | pm+pt                                                                             | NA                                                                                | Perm                                                                              | Perm                                                                                | NA                                                                                  | Free                                                                                | Perm                                                                                | NA                                                                                  |                                                                                     |
| Protected Phases                                                      | 5                                                                                 | 2                                                                                 |                                                                                   | 1                                                                                 | 6                                                                                 |                                                                                   |                                                                                     | 4                                                                                   |                                                                                     |                                                                                     | 8                                                                                   |                                                                                     |
| Permitted Phases                                                      | 2                                                                                 |                                                                                   | 2                                                                                 | 6                                                                                 |                                                                                   | 6                                                                                 | 4                                                                                   |                                                                                     | Free                                                                                | 8                                                                                   |                                                                                     |                                                                                     |
| Detector Phase                                                        | 5                                                                                 | 2                                                                                 | 2                                                                                 | 1                                                                                 | 6                                                                                 | 6                                                                                 | 4                                                                                   | 4                                                                                   |                                                                                     | 8                                                                                   | 8                                                                                   |                                                                                     |
| Switch Phase                                                          |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Minimum Initial (s)                                                   | 5.0                                                                               | 5.0                                                                               | 5.0                                                                               | 5.0                                                                               | 5.0                                                                               | 5.0                                                                               | 5.0                                                                                 | 5.0                                                                                 |                                                                                     | 5.0                                                                                 | 5.0                                                                                 |                                                                                     |
| Minimum Split (s)                                                     | 11.0                                                                              | 11.0                                                                              | 11.0                                                                              | 11.0                                                                              | 11.0                                                                              | 11.0                                                                              | 10.0                                                                                | 10.0                                                                                |                                                                                     | 10.0                                                                                | 10.0                                                                                |                                                                                     |
| Total Split (s)                                                       | 11.0                                                                              | 29.0                                                                              | 29.0                                                                              | 11.0                                                                              | 29.0                                                                              | 29.0                                                                              | 20.0                                                                                | 20.0                                                                                |                                                                                     | 20.0                                                                                | 20.0                                                                                |                                                                                     |
| Total Split (%)                                                       | 18.3%                                                                             | 48.3%                                                                             | 48.3%                                                                             | 18.3%                                                                             | 48.3%                                                                             | 48.3%                                                                             | 33.3%                                                                               | 33.3%                                                                               |                                                                                     | 33.3%                                                                               | 33.3%                                                                               |                                                                                     |
| Yellow Time (s)                                                       | 4.0                                                                               | 4.0                                                                               | 4.0                                                                               | 4.0                                                                               | 4.0                                                                               | 4.0                                                                               | 3.0                                                                                 | 3.0                                                                                 |                                                                                     | 3.0                                                                                 | 3.0                                                                                 |                                                                                     |
| All-Red Time (s)                                                      | 2.0                                                                               | 2.0                                                                               | 2.0                                                                               | 2.0                                                                               | 2.0                                                                               | 2.0                                                                               | 2.0                                                                                 | 2.0                                                                                 |                                                                                     | 2.0                                                                                 | 2.0                                                                                 |                                                                                     |
| Lost Time Adjust (s)                                                  | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               | 0.0                                                                                 | 0.0                                                                                 |                                                                                     | 0.0                                                                                 | 0.0                                                                                 |                                                                                     |
| Total Lost Time (s)                                                   | 6.0                                                                               | 6.0                                                                               | 6.0                                                                               | 6.0                                                                               | 6.0                                                                               | 6.0                                                                               | 5.0                                                                                 | 5.0                                                                                 |                                                                                     | 5.0                                                                                 | 5.0                                                                                 |                                                                                     |
| Lead/Lag                                                              | Lead                                                                              | Lag                                                                               | Lag                                                                               | Lead                                                                              | Lag                                                                               | Lag                                                                               |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Lead-Lag Optimize?                                                    | Yes                                                                               | Yes                                                                               | Yes                                                                               | Yes                                                                               | Yes                                                                               | Yes                                                                               |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Recall Mode                                                           | None                                                                              | C-Max                                                                             | C-Max                                                                             | None                                                                              | C-Max                                                                             | C-Max                                                                             | Max                                                                                 | Max                                                                                 |                                                                                     | Max                                                                                 | Max                                                                                 |                                                                                     |
| Act Effct Green (s)                                                   | 32.8                                                                              | 31.8                                                                              | 31.8                                                                              | 29.2                                                                              | 25.2                                                                              | 25.2                                                                              | 15.0                                                                                | 15.0                                                                                | 60.0                                                                                | 15.0                                                                                | 15.0                                                                                |                                                                                     |
| Actuated g/C Ratio                                                    | 0.55                                                                              | 0.53                                                                              | 0.53                                                                              | 0.49                                                                              | 0.42                                                                              | 0.42                                                                              | 0.25                                                                                | 0.25                                                                                | 1.00                                                                                | 0.25                                                                                | 0.25                                                                                |                                                                                     |
| v/c Ratio                                                             | 0.47                                                                              | 0.53                                                                              | 0.06                                                                              | 0.05                                                                              | 0.81                                                                              | 0.01                                                                              | 0.80                                                                                | 0.00                                                                                | 0.01                                                                                | 0.04                                                                                | 0.63                                                                                |                                                                                     |
| Control Delay (s/veh)                                                 | 18.6                                                                              | 7.2                                                                               | 0.3                                                                               | 6.4                                                                               | 20.6                                                                              | 0.0                                                                               | 59.2                                                                                | 17.0                                                                                | 0.0                                                                                 | 17.6                                                                                | 14.8                                                                                |                                                                                     |
| Queue Delay                                                           | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               | 0.0                                                                                 | 0.0                                                                                 | 0.0                                                                                 | 0.0                                                                                 | 0.0                                                                                 |                                                                                     |
| Total Delay (s/veh)                                                   | 18.6                                                                              | 7.2                                                                               | 0.3                                                                               | 6.4                                                                               | 20.6                                                                              | 0.0                                                                               | 59.2                                                                                | 17.0                                                                                | 0.0                                                                                 | 17.6                                                                                | 14.8                                                                                |                                                                                     |
| LOS                                                                   | B                                                                                 | A                                                                                 | A                                                                                 | A                                                                                 | C                                                                                 | A                                                                                 | E                                                                                   | B                                                                                   | A                                                                                   | B                                                                                   | B                                                                                   |                                                                                     |
| Approach Delay (s/veh)                                                |                                                                                   | 8.1                                                                               |                                                                                   |                                                                                   | 20.4                                                                              |                                                                                   |                                                                                     | 54.4                                                                                |                                                                                     |                                                                                     | 14.9                                                                                |                                                                                     |
| Approach LOS                                                          |                                                                                   | A                                                                                 |                                                                                   |                                                                                   | C                                                                                 |                                                                                   |                                                                                     | D                                                                                   |                                                                                     |                                                                                     | B                                                                                   |                                                                                     |
| Queue Length 50th (ft)                                                | 12                                                                                | 31                                                                                | 0                                                                                 | 2                                                                                 | 207                                                                               | 0                                                                                 | 43                                                                                  | 1                                                                                   | 0                                                                                   | 4                                                                                   | 44                                                                                  |                                                                                     |
| Queue Length 95th (ft)                                                | 61                                                                                | 88                                                                                | 0                                                                                 | 8                                                                                 | #302                                                                              | 0                                                                                 | #128                                                                                | 5                                                                                   | 0                                                                                   | 16                                                                                  | 120                                                                                 |                                                                                     |
| Internal Link Dist (ft)                                               |                                                                                   | 600                                                                               |                                                                                   |                                                                                   | 542                                                                               |                                                                                   |                                                                                     | 565                                                                                 |                                                                                     |                                                                                     | 379                                                                                 |                                                                                     |
| Turn Bay Length (ft)                                                  | 530                                                                               |                                                                                   | 380                                                                               | 330                                                                               |                                                                                   | 360                                                                               | 125                                                                                 |                                                                                     | 195                                                                                 | 110                                                                                 |                                                                                     |                                                                                     |
| Base Capacity (vph)                                                   | 275                                                                               | 1875                                                                              | 906                                                                               | 326                                                                               | 2135                                                                              | 749                                                                               | 161                                                                                 | 465                                                                                 | 1583                                                                                | 352                                                                                 | 544                                                                                 |                                                                                     |
| Starvation Cap Reductn                                                | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                   | 0                                                                                   | 0                                                                                   | 0                                                                                   | 0                                                                                   |                                                                                     |
| Spillback Cap Reductn                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                   | 0                                                                                   | 0                                                                                   | 0                                                                                   | 0                                                                                   |                                                                                     |
| Storage Cap Reductn                                                   | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                   | 0                                                                                   | 0                                                                                   | 0                                                                                   | 0                                                                                   |                                                                                     |
| Reduced v/c Ratio                                                     | 0.47                                                                              | 0.53                                                                              | 0.06                                                                              | 0.05                                                                              | 0.81                                                                              | 0.01                                                                              | 0.80                                                                                | 0.00                                                                                | 0.01                                                                                | 0.04                                                                                | 0.63                                                                                |                                                                                     |
| Intersection Summary                                                  |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Cycle Length: 60                                                      |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Actuated Cycle Length: 60                                             |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Natural Cycle: 50                                                     |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Control Type: Actuated-Coordinated                                    |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |

|                                                                 |                        |
|-----------------------------------------------------------------|------------------------|
| Maximum v/c Ratio: 0.81                                         |                        |
| Intersection Signal Delay (s/veh): 17.0                         | Intersection LOS: B    |
| Intersection Capacity Utilization 81.8%                         | ICU Level of Service D |
| Analysis Period (min) 15                                        |                        |
| # 95th percentile volume exceeds capacity, queue may be longer. |                        |
| Queue shown is maximum after two cycles.                        |                        |

Splits and Phases: 3: Golden Sage Road & E Woodmen Road



HCM Unsignalized Intersection Capacity Analysis  
4: Golden Sage Road & Woodmen Frontage Road

Existing Traffic Conditions  
AM Peak Traffic Hour

|                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
|-----------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|
|                                   |  |  |  |  |  |  |
| Movement                          | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | NBL                                                                               | NBR                                                                               |
| Lane Configurations               |  |                                                                                   |                                                                                   |  |  |                                                                                   |
| Traffic Volume (veh/h)            | 5                                                                                 | 7                                                                                 | 323                                                                               | 5                                                                                 | 121                                                                               | 5                                                                                 |
| Future Volume (Veh/h)             | 5                                                                                 | 7                                                                                 | 323                                                                               | 5                                                                                 | 121                                                                               | 5                                                                                 |
| Sign Control                      | Stop                                                                              |                                                                                   |                                                                                   | Stop                                                                              | Free                                                                              |                                                                                   |
| Grade                             | 0%                                                                                |                                                                                   |                                                                                   | 0%                                                                                | 0%                                                                                |                                                                                   |
| Peak Hour Factor                  | 0.92                                                                              | 0.92                                                                              | 0.92                                                                              | 0.92                                                                              | 0.92                                                                              | 0.92                                                                              |
| Hourly flow rate (vph)            | 5                                                                                 | 8                                                                                 | 351                                                                               | 5                                                                                 | 132                                                                               | 5                                                                                 |
| Pedestrians                       |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Lane Width (ft)                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Walking Speed (ft/s)              |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Percent Blockage                  |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Right turn flare (veh)            |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Median type                       |                                                                                   |                                                                                   |                                                                                   |                                                                                   | None                                                                              |                                                                                   |
| Median storage veh                |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Upstream signal (ft)              |                                                                                   |                                                                                   |                                                                                   |                                                                                   | 459                                                                               |                                                                                   |
| pX, platoon unblocked             |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| vC, conflicting volume            | 269                                                                               | 0                                                                                 | 277                                                                               | 267                                                                               | 0                                                                                 |                                                                                   |
| vC1, stage 1 conf vol             |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| vC2, stage 2 conf vol             |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| vCu, unblocked vol                | 269                                                                               | 0                                                                                 | 277                                                                               | 267                                                                               | 0                                                                                 |                                                                                   |
| tC, single (s)                    | 6.5                                                                               | 6.2                                                                               | 7.1                                                                               | 6.5                                                                               | 4.1                                                                               |                                                                                   |
| tC, 2 stage (s)                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| tF (s)                            | 4.0                                                                               | 3.3                                                                               | 3.5                                                                               | 4.0                                                                               | 2.2                                                                               |                                                                                   |
| p0 queue free %                   | 99                                                                                | 99                                                                                | 44                                                                                | 99                                                                                | 92                                                                                |                                                                                   |
| cM capacity (veh/h)               | 585                                                                               | 1085                                                                              | 625                                                                               | 587                                                                               | 1623                                                                              |                                                                                   |
| Direction, Lane #                 | EB 1                                                                              | WB 1                                                                              | NB 1                                                                              |                                                                                   |                                                                                   |                                                                                   |
| Volume Total                      | 13                                                                                | 356                                                                               | 137                                                                               |                                                                                   |                                                                                   |                                                                                   |
| Volume Left                       | 0                                                                                 | 351                                                                               | 132                                                                               |                                                                                   |                                                                                   |                                                                                   |
| Volume Right                      | 8                                                                                 | 0                                                                                 | 5                                                                                 |                                                                                   |                                                                                   |                                                                                   |
| cSH                               | 817                                                                               | 624                                                                               | 1623                                                                              |                                                                                   |                                                                                   |                                                                                   |
| Volume to Capacity                | 0.02                                                                              | 0.57                                                                              | 0.08                                                                              |                                                                                   |                                                                                   |                                                                                   |
| Queue Length 95th (ft)            | 1                                                                                 | 90                                                                                | 7                                                                                 |                                                                                   |                                                                                   |                                                                                   |
| Control Delay (s/veh)             | 9.5                                                                               | 18.1                                                                              | 7.2                                                                               |                                                                                   |                                                                                   |                                                                                   |
| Lane LOS                          | A                                                                                 | C                                                                                 | A                                                                                 |                                                                                   |                                                                                   |                                                                                   |
| Approach Delay (s/veh)            | 9.5                                                                               | 18.1                                                                              | 7.2                                                                               |                                                                                   |                                                                                   |                                                                                   |
| Approach LOS                      | A                                                                                 | C                                                                                 |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Intersection Summary              |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Average Delay                     |                                                                                   |                                                                                   | 15.0                                                                              |                                                                                   |                                                                                   |                                                                                   |
| Intersection Capacity Utilization |                                                                                   |                                                                                   | 38.5%                                                                             | ICU Level of Service                                                              | A                                                                                 |                                                                                   |
| Analysis Period (min)             |                                                                                   |                                                                                   | 15                                                                                |                                                                                   |                                                                                   |                                                                                   |

| Intersection             |        |                                                                                   |        |       |                                                                                   |       |        |                                                                                   |      |       |                                                                                     |      |
|--------------------------|--------|-----------------------------------------------------------------------------------|--------|-------|-----------------------------------------------------------------------------------|-------|--------|-----------------------------------------------------------------------------------|------|-------|-------------------------------------------------------------------------------------|------|
| Int Delay, s/veh         | 2.9    |                                                                                   |        |       |                                                                                   |       |        |                                                                                   |      |       |                                                                                     |      |
| Movement                 | EBL    | EBT                                                                               | EBR    | WBL   | WBT                                                                               | WBR   | NBL    | NBT                                                                               | NBR  | SBL   | SBT                                                                                 | SBR  |
| Lane Configurations      |        |  |        |       |  |       |        |  |      |       |  |      |
| Traffic Vol, veh/h       | 1      | 5                                                                                 | 10     | 17    | 3                                                                                 | 5     | 7      | 31                                                                                | 30   | 2     | 34                                                                                  | 5    |
| Future Vol, veh/h        | 1      | 5                                                                                 | 10     | 17    | 3                                                                                 | 5     | 7      | 31                                                                                | 30   | 2     | 34                                                                                  | 5    |
| Conflicting Peds, #/hr   | 0      | 0                                                                                 | 0      | 0     | 0                                                                                 | 0     | 0      | 0                                                                                 | 0    | 0     | 0                                                                                   | 0    |
| Sign Control             | Stop   | Stop                                                                              | Stop   | Stop  | Stop                                                                              | Stop  | Free   | Free                                                                              | Free | Free  | Free                                                                                | Free |
| RT Channelized           | -      | -                                                                                 | None   | -     | -                                                                                 | None  | -      | -                                                                                 | None | -     | -                                                                                   | 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                | 1      | 5                                                                                 | 11     | 18    | 3                                                                                 | 5     | 8      | 34                                                                                | 33   | 2     | 37                                                                                  | 5    |
|                          |        |                                                                                   |        |       |                                                                                   |       |        |                                                                                   |      |       |                                                                                     |      |
| Major/Minor              | Minor2 |                                                                                   | Minor1 |       | Major1                                                                            |       | Major2 |                                                                                   |      |       |                                                                                     |      |
| Conflicting Flow All     | 95     | 126                                                                               | 40     | 109   | 112                                                                               | 50    | 42     | 0                                                                                 | 0    | 66    | 0                                                                                   | 0    |
| Stage 1                  | 44     | 44                                                                                | -      | 65    | 65                                                                                | -     | -      | -                                                                                 | -    | -     | -                                                                                   | -    |
| Stage 2                  | 51     | 82                                                                                | -      | 44    | 47                                                                                | -     | -      | -                                                                                 | -    | -     | -                                                                                   | -    |
| Critical Hdwy            | 7.12   | 6.52                                                                              | 6.22   | 7.12  | 6.52                                                                              | 6.22  | 4.12   | -                                                                                 | -    | 4.12  | -                                                                                   | -    |
| Critical Hdwy Stg 1      | 6.12   | 5.52                                                                              | -      | 6.12  | 5.52                                                                              | -     | -      | -                                                                                 | -    | -     | -                                                                                   | -    |
| Critical Hdwy Stg 2      | 6.12   | 5.52                                                                              | -      | 6.12  | 5.52                                                                              | -     | -      | -                                                                                 | -    | -     | -                                                                                   | -    |
| Follow-up Hdwy           | 3.518  | 4.018                                                                             | 3.318  | 3.518 | 4.018                                                                             | 3.318 | 2.218  | -                                                                                 | -    | 2.218 | -                                                                                   | -    |
| Pot Cap-1 Maneuver       | 889    | 765                                                                               | 1032   | 869   | 778                                                                               | 1018  | 1567   | -                                                                                 | -    | 1535  | -                                                                                   | -    |
| Stage 1                  | 970    | 858                                                                               | -      | 945   | 841                                                                               | -     | -      | -                                                                                 | -    | -     | -                                                                                   | -    |
| Stage 2                  | 962    | 827                                                                               | -      | 970   | 856                                                                               | -     | -      | -                                                                                 | -    | -     | -                                                                                   | -    |
| Platoon blocked, %       |        |                                                                                   |        |       |                                                                                   |       |        | -                                                                                 | -    |       | -                                                                                   | -    |
| Mov Cap-1 Maneuver       | 874    | 760                                                                               | 1032   | 848   | 773                                                                               | 1018  | 1567   | -                                                                                 | -    | 1535  | -                                                                                   | -    |
| Mov Cap-2 Maneuver       | 874    | 760                                                                               | -      | 848   | 773                                                                               | -     | -      | -                                                                                 | -    | -     | -                                                                                   | -    |
| Stage 1                  | 969    | 857                                                                               | -      | 941   | 836                                                                               | -     | -      | -                                                                                 | -    | -     | -                                                                                   | -    |
| Stage 2                  | 949    | 823                                                                               | -      | 952   | 855                                                                               | -     | -      | -                                                                                 | -    | -     | -                                                                                   | -    |
|                          |        |                                                                                   |        |       |                                                                                   |       |        |                                                                                   |      |       |                                                                                     |      |
|                          |        |                                                                                   |        |       |                                                                                   |       |        |                                                                                   |      |       |                                                                                     |      |
| Approach                 | EB     |                                                                                   | WB     |       | NB                                                                                |       | SB     |                                                                                   |      |       |                                                                                     |      |
| HCM Ctrl Dly, s/v        | 8.99   |                                                                                   | 9.29   |       | 0.75                                                                              |       | 0.36   |                                                                                   |      |       |                                                                                     |      |
| HCM LOS                  | A      |                                                                                   | A      |       |                                                                                   |       |        |                                                                                   |      |       |                                                                                     |      |
|                          |        |                                                                                   |        |       |                                                                                   |       |        |                                                                                   |      |       |                                                                                     |      |
| Minor Lane/Major Mvmt    | NBL    | NBT                                                                               | NBR    | EBLn1 | WBLn1                                                                             | SBL   | SBT    | SBR                                                                               |      |       |                                                                                     |      |
| Capacity (veh/h)         | 169    | -                                                                                 | -      | 919   | 867                                                                               | 86    | -      | -                                                                                 |      |       |                                                                                     |      |
| HCM Lane V/C Ratio       | 0.005  | -                                                                                 | -      | 0.019 | 0.031                                                                             | 0.001 | -      | -                                                                                 |      |       |                                                                                     |      |
| HCM Ctrl Dly (s/v)       | 7.3    | 0                                                                                 | -      | 9     | 9.3                                                                               | 7.3   | 0      | -                                                                                 |      |       |                                                                                     |      |
| HCM Lane LOS             | A      | A                                                                                 | -      | A     | A                                                                                 | A     | A      | -                                                                                 |      |       |                                                                                     |      |
| HCM 95th %tile Q(veh)    | 0      | -                                                                                 | -      | 0.1   | 0.1                                                                               | 0     | -      | -                                                                                 |      |       |                                                                                     |      |

# Timings

1: Mohawk Road & E Woodmen Road

Existing Traffic Conditions

PM Peak Traffic Hour

|                                                            |  |                                                                                                                                                                      |  |  |                                                                                                                                                                      |  |  |                                                                                      |  |  |  |  |
|------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Lane Group                                                 | EBL                                                                               | EBT                                                                                                                                                                                                                                                   | EBR                                                                               | WBL                                                                               | WBT                                                                                                                                                                                                                                                   | WBR                                                                               | NBL                                                                                 | NBT                                                                                                                                                                     | NBR                                                                                 | SBL                                                                                 | SBT                                                                                 | SBR                                                                                 |
| Lane Configurations                                        |  |    |  |  |    |  |                                                                                     |   |                                                                                     |  |  |                                                                                     |
| Traffic Volume (vph)                                       | 26                                                                                | 1676                                                                                                                                                                                                                                                  | 151                                                                               | 20                                                                                | 1406                                                                                                                                                                                                                                                  | 17                                                                                | 23                                                                                  | 5                                                                                                                                                                       | 6                                                                                   | 11                                                                                  | 1                                                                                   | 32                                                                                  |
| Future Volume (vph)                                        | 26                                                                                | 1676                                                                                                                                                                                                                                                  | 151                                                                               | 20                                                                                | 1406                                                                                                                                                                                                                                                  | 17                                                                                | 23                                                                                  | 5                                                                                                                                                                       | 6                                                                                   | 11                                                                                  | 1                                                                                   | 32                                                                                  |
| Satd. Flow (prot)                                          | 1770                                                                              | 5085                                                                                                                                                                                                                                                  | 1583                                                                              | 1770                                                                              | 5085                                                                                                                                                                                                                                                  | 1583                                                                              | 0                                                                                   | 1754                                                                                                                                                                    | 0                                                                                   | 1770                                                                                | 1591                                                                                | 0                                                                                   |
| Flt Permitted                                              | 0.148                                                                             |                                                                                                                                                                                                                                                       |                                                                                   | 0.103                                                                             |                                                                                                                                                                                                                                                       |                                                                                   |                                                                                     | 0.805                                                                                                                                                                   |                                                                                     | 0.812                                                                               |                                                                                     |                                                                                     |
| Satd. Flow (perm)                                          | 276                                                                               | 5085                                                                                                                                                                                                                                                  | 1583                                                                              | 192                                                                               | 5085                                                                                                                                                                                                                                                  | 1583                                                                              | 0                                                                                   | 1461                                                                                                                                                                    | 0                                                                                   | 1513                                                                                | 1591                                                                                | 0                                                                                   |
| Satd. Flow (RTOR)                                          |                                                                                   |                                                                                                                                                                                                                                                       | 164                                                                               |                                                                                   |                                                                                                                                                                                                                                                       | 18                                                                                |                                                                                     | 7                                                                                                                                                                       |                                                                                     |                                                                                     | 35                                                                                  |                                                                                     |
| Lane Group Flow (vph)                                      | 28                                                                                | 1822                                                                                                                                                                                                                                                  | 164                                                                               | 22                                                                                | 1528                                                                                                                                                                                                                                                  | 18                                                                                | 0                                                                                   | 37                                                                                                                                                                      | 0                                                                                   | 12                                                                                  | 36                                                                                  | 0                                                                                   |
| Turn Type                                                  | Perm                                                                              | NA                                                                                                                                                                                                                                                    | Perm                                                                              | Perm                                                                              | NA                                                                                                                                                                                                                                                    | Perm                                                                              | Perm                                                                                | NA                                                                                                                                                                      |                                                                                     | Perm                                                                                | NA                                                                                  |                                                                                     |
| Protected Phases                                           |                                                                                   | 2                                                                                                                                                                                                                                                     |                                                                                   |                                                                                   | 6                                                                                                                                                                                                                                                     |                                                                                   |                                                                                     | 8                                                                                                                                                                       |                                                                                     |                                                                                     | 4                                                                                   |                                                                                     |
| Permitted Phases                                           | 2                                                                                 |                                                                                                                                                                                                                                                       | 2                                                                                 | 6                                                                                 |                                                                                                                                                                                                                                                       | 6                                                                                 | 8                                                                                   |                                                                                                                                                                         |                                                                                     | 4                                                                                   |                                                                                     |                                                                                     |
| Detector Phase                                             | 2                                                                                 | 2                                                                                                                                                                                                                                                     | 2                                                                                 | 6                                                                                 | 6                                                                                                                                                                                                                                                     | 6                                                                                 | 8                                                                                   | 8                                                                                                                                                                       |                                                                                     | 4                                                                                   | 4                                                                                   |                                                                                     |
| Switch Phase                                               |                                                                                   |                                                                                                                                                                                                                                                       |                                                                                   |                                                                                   |                                                                                                                                                                                                                                                       |                                                                                   |                                                                                     |                                                                                                                                                                         |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Minimum Initial (s)                                        | 5.0                                                                               | 5.0                                                                                                                                                                                                                                                   | 5.0                                                                               | 5.0                                                                               | 5.0                                                                                                                                                                                                                                                   | 5.0                                                                               | 5.0                                                                                 | 5.0                                                                                                                                                                     |                                                                                     | 5.0                                                                                 | 5.0                                                                                 |                                                                                     |
| Minimum Split (s)                                          | 11.0                                                                              | 11.0                                                                                                                                                                                                                                                  | 11.0                                                                              | 11.0                                                                              | 11.0                                                                                                                                                                                                                                                  | 11.0                                                                              | 10.0                                                                                | 10.0                                                                                                                                                                    |                                                                                     | 10.0                                                                                | 10.0                                                                                |                                                                                     |
| Total Split (s)                                            | 100.0                                                                             | 100.0                                                                                                                                                                                                                                                 | 100.0                                                                             | 100.0                                                                             | 100.0                                                                                                                                                                                                                                                 | 100.0                                                                             | 20.0                                                                                | 20.0                                                                                                                                                                    |                                                                                     | 20.0                                                                                | 20.0                                                                                |                                                                                     |
| Total Split (%)                                            | 83.3%                                                                             | 83.3%                                                                                                                                                                                                                                                 | 83.3%                                                                             | 83.3%                                                                             | 83.3%                                                                                                                                                                                                                                                 | 83.3%                                                                             | 16.7%                                                                               | 16.7%                                                                                                                                                                   |                                                                                     | 16.7%                                                                               | 16.7%                                                                               |                                                                                     |
| Yellow Time (s)                                            | 4.0                                                                               | 4.0                                                                                                                                                                                                                                                   | 4.0                                                                               | 4.0                                                                               | 4.0                                                                                                                                                                                                                                                   | 4.0                                                                               | 3.0                                                                                 | 3.0                                                                                                                                                                     |                                                                                     | 3.0                                                                                 | 3.0                                                                                 |                                                                                     |
| All-Red Time (s)                                           | 2.0                                                                               | 2.0                                                                                                                                                                                                                                                   | 2.0                                                                               | 2.0                                                                               | 2.0                                                                                                                                                                                                                                                   | 2.0                                                                               | 2.0                                                                                 | 2.0                                                                                                                                                                     |                                                                                     | 2.0                                                                                 | 2.0                                                                                 |                                                                                     |
| Lost Time Adjust (s)                                       | 0.0                                                                               | 0.0                                                                                                                                                                                                                                                   | 0.0                                                                               | 0.0                                                                               | 0.0                                                                                                                                                                                                                                                   | 0.0                                                                               |                                                                                     | 0.0                                                                                                                                                                     |                                                                                     | 0.0                                                                                 | 0.0                                                                                 |                                                                                     |
| Total Lost Time (s)                                        | 6.0                                                                               | 6.0                                                                                                                                                                                                                                                   | 6.0                                                                               | 6.0                                                                               | 6.0                                                                                                                                                                                                                                                   | 6.0                                                                               |                                                                                     | 5.0                                                                                                                                                                     |                                                                                     | 5.0                                                                                 | 5.0                                                                                 |                                                                                     |
| Lead/Lag                                                   |                                                                                   |                                                                                                                                                                                                                                                       |                                                                                   |                                                                                   |                                                                                                                                                                                                                                                       |                                                                                   |                                                                                     |                                                                                                                                                                         |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Lead-Lag Optimize?                                         |                                                                                   |                                                                                                                                                                                                                                                       |                                                                                   |                                                                                   |                                                                                                                                                                                                                                                       |                                                                                   |                                                                                     |                                                                                                                                                                         |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Recall Mode                                                | C-Max                                                                             | C-Max                                                                                                                                                                                                                                                 | C-Max                                                                             | Max                                                                               | Max                                                                                                                                                                                                                                                   | Max                                                                               | Max                                                                                 | Max                                                                                                                                                                     |                                                                                     | Max                                                                                 | Max                                                                                 |                                                                                     |
| Act Effect Green (s)                                       | 94.0                                                                              | 94.0                                                                                                                                                                                                                                                  | 94.0                                                                              | 94.0                                                                              | 94.0                                                                                                                                                                                                                                                  | 94.0                                                                              |                                                                                     | 15.0                                                                                                                                                                    |                                                                                     | 15.0                                                                                | 15.0                                                                                |                                                                                     |
| Actuated g/C Ratio                                         | 0.78                                                                              | 0.78                                                                                                                                                                                                                                                  | 0.78                                                                              | 0.78                                                                              | 0.78                                                                                                                                                                                                                                                  | 0.78                                                                              |                                                                                     | 0.13                                                                                                                                                                    |                                                                                     | 0.13                                                                                | 0.13                                                                                |                                                                                     |
| v/c Ratio                                                  | 0.13                                                                              | 0.46                                                                                                                                                                                                                                                  | 0.13                                                                              | 0.15                                                                              | 0.38                                                                                                                                                                                                                                                  | 0.01                                                                              |                                                                                     | 0.20                                                                                                                                                                    |                                                                                     | 0.06                                                                                | 0.16                                                                                |                                                                                     |
| Control Delay (s/veh)                                      | 4.7                                                                               | 4.8                                                                                                                                                                                                                                                   | 0.7                                                                               | 8.3                                                                               | 9.6                                                                                                                                                                                                                                                   | 2.6                                                                               |                                                                                     | 43.0                                                                                                                                                                    |                                                                                     | 47.4                                                                                | 17.1                                                                                |                                                                                     |
| Queue Delay                                                | 0.0                                                                               | 0.0                                                                                                                                                                                                                                                   | 0.0                                                                               | 0.0                                                                               | 0.0                                                                                                                                                                                                                                                   | 0.0                                                                               |                                                                                     | 0.0                                                                                                                                                                     |                                                                                     | 0.0                                                                                 | 0.0                                                                                 |                                                                                     |
| Total Delay (s/veh)                                        | 4.7                                                                               | 4.8                                                                                                                                                                                                                                                   | 0.7                                                                               | 8.3                                                                               | 9.6                                                                                                                                                                                                                                                   | 2.6                                                                               |                                                                                     | 43.0                                                                                                                                                                    |                                                                                     | 47.4                                                                                | 17.1                                                                                |                                                                                     |
| LOS                                                        | A                                                                                 | A                                                                                                                                                                                                                                                     | A                                                                                 | A                                                                                 | A                                                                                                                                                                                                                                                     | A                                                                                 |                                                                                     | D                                                                                                                                                                       |                                                                                     | D                                                                                   | B                                                                                   |                                                                                     |
| Approach Delay (s/veh)                                     |                                                                                   | 4.5                                                                                                                                                                                                                                                   |                                                                                   |                                                                                   | 9.5                                                                                                                                                                                                                                                   |                                                                                   |                                                                                     | 43.0                                                                                                                                                                    |                                                                                     |                                                                                     | 24.7                                                                                |                                                                                     |
| Approach LOS                                               |                                                                                   | A                                                                                                                                                                                                                                                     |                                                                                   |                                                                                   | A                                                                                                                                                                                                                                                     |                                                                                   |                                                                                     | D                                                                                                                                                                       |                                                                                     |                                                                                     | C                                                                                   |                                                                                     |
| Queue Length 50th (ft)                                     | 4                                                                                 | 144                                                                                                                                                                                                                                                   | 0                                                                                 | 9                                                                                 | 256                                                                                                                                                                                                                                                   | 3                                                                                 |                                                                                     | 21                                                                                                                                                                      |                                                                                     | 8                                                                                   | 1                                                                                   |                                                                                     |
| Queue Length 95th (ft)                                     | 13                                                                                | 165                                                                                                                                                                                                                                                   | 13                                                                                | m21                                                                               | 256                                                                                                                                                                                                                                                   | m8                                                                                |                                                                                     | 55                                                                                                                                                                      |                                                                                     | 28                                                                                  | 33                                                                                  |                                                                                     |
| Internal Link Dist (ft)                                    |                                                                                   | 2474                                                                                                                                                                                                                                                  |                                                                                   |                                                                                   | 750                                                                                                                                                                                                                                                   |                                                                                   |                                                                                     | 6246                                                                                                                                                                    |                                                                                     |                                                                                     | 419                                                                                 |                                                                                     |
| Turn Bay Length (ft)                                       | 300                                                                               |                                                                                                                                                                                                                                                       | 400                                                                               | 315                                                                               |                                                                                                                                                                                                                                                       | 370                                                                               |                                                                                     |                                                                                                                                                                         |                                                                                     | 50                                                                                  |                                                                                     |                                                                                     |
| Base Capacity (vph)                                        | 216                                                                               | 3983                                                                                                                                                                                                                                                  | 1275                                                                              | 150                                                                               | 3983                                                                                                                                                                                                                                                  | 1243                                                                              |                                                                                     | 188                                                                                                                                                                     |                                                                                     | 189                                                                                 | 229                                                                                 |                                                                                     |
| 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                                                                                   |                                                                                     |
| Reduced v/c Ratio                                          | 0.13                                                                              | 0.46                                                                                                                                                                                                                                                  | 0.13                                                                              | 0.15                                                                              | 0.38                                                                                                                                                                                                                                                  | 0.01                                                                              |                                                                                     | 0.20                                                                                                                                                                    |                                                                                     | 0.06                                                                                | 0.16                                                                                |                                                                                     |
| Intersection Summary                                       |                                                                                   |                                                                                                                                                                                                                                                       |                                                                                   |                                                                                   |                                                                                                                                                                                                                                                       |                                                                                   |                                                                                     |                                                                                                                                                                         |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Cycle Length: 120                                          |                                                                                   |                                                                                                                                                                                                                                                       |                                                                                   |                                                                                   |                                                                                                                                                                                                                                                       |                                                                                   |                                                                                     |                                                                                                                                                                         |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Actuated Cycle Length: 120                                 |                                                                                   |                                                                                                                                                                                                                                                       |                                                                                   |                                                                                   |                                                                                                                                                                                                                                                       |                                                                                   |                                                                                     |                                                                                                                                                                         |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Offset: 0 (0%), Referenced to phase 2:EBTL, Start of Green |                                                                                   |                                                                                                                                                                                                                                                       |                                                                                   |                                                                                   |                                                                                                                                                                                                                                                       |                                                                                   |                                                                                     |                                                                                                                                                                         |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Natural Cycle: 40                                          |                                                                                   |                                                                                                                                                                                                                                                       |                                                                                   |                                                                                   |                                                                                                                                                                                                                                                       |                                                                                   |                                                                                     |                                                                                                                                                                         |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Control Type: Actuated-Coordinated                         |                                                                                   |                                                                                                                                                                                                                                                       |                                                                                   |                                                                                   |                                                                                                                                                                                                                                                       |                                                                                   |                                                                                     |                                                                                                                                                                         |                                                                                     |                                                                                     |                                                                                     |                                                                                     |

|                                                                   |                        |
|-------------------------------------------------------------------|------------------------|
| Maximum v/c Ratio: 0.46                                           |                        |
| Intersection Signal Delay (s/veh): 7.3                            | Intersection LOS: A    |
| Intersection Capacity Utilization 50.1%                           | ICU Level of Service A |
| Analysis Period (min) 15                                          |                        |
| m Volume for 95th percentile queue is metered by upstream signal. |                        |

Splits and Phases: 1: Mohawk Road & E Woodmen Road



# Timings

## 2: Banning Lewis Parkway & E Woodmen Road

# Existing Traffic Conditions

## PM Peak Traffic Hour

|                         |                                                                                    |                                                                                                                                                                      |  |                                                                                    |                                                                                                                                                                      |    |                                                                                      |                                                                                                                                                                          |  |                                                                                                                                                                          |                                                                                                                                                                          |  |
|-------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Lane Group              | EBL                                                                                                                                                                 | EBT                                                                                                                                                                                                                                                   | EBR                                                                               | WBL                                                                                                                                                                 | WBT                                                                                                                                                                                                                                                   | WBR                                                                                 | NBL                                                                                                                                                                     | NBT                                                                                                                                                                                                                                                         | NBR                                                                                 | SBL                                                                                                                                                                                                                                                         | SBT                                                                                                                                                                                                                                                         | SBR                                                                                 |
| Lane Configurations     |   |    |  |   |    |  |   |    |  |    |    |  |
| Traffic Volume (vph)    | 1                                                                                                                                                                   | 1531                                                                                                                                                                                                                                                  | 158                                                                               | 128                                                                                                                                                                 | 1346                                                                                                                                                                                                                                                  | 1                                                                                   | 75                                                                                                                                                                      | 1                                                                                                                                                                                                                                                           | 111                                                                                 | 7                                                                                                                                                                                                                                                           | 2                                                                                                                                                                                                                                                           | 12                                                                                  |
| Future Volume (vph)     | 1                                                                                                                                                                   | 1531                                                                                                                                                                                                                                                  | 158                                                                               | 128                                                                                                                                                                 | 1346                                                                                                                                                                                                                                                  | 1                                                                                   | 75                                                                                                                                                                      | 1                                                                                                                                                                                                                                                           | 111                                                                                 | 7                                                                                                                                                                                                                                                           | 2                                                                                                                                                                                                                                                           | 12                                                                                  |
| Satd. Flow (prot)       | 3433                                                                                                                                                                | 5085                                                                                                                                                                                                                                                  | 1583                                                                              | 3433                                                                                                                                                                | 5085                                                                                                                                                                                                                                                  | 1583                                                                                | 3433                                                                                                                                                                    | 5085                                                                                                                                                                                                                                                        | 1583                                                                                | 3433                                                                                                                                                                                                                                                        | 5085                                                                                                                                                                                                                                                        | 1583                                                                                |
| Flt Permitted           | 0.950                                                                                                                                                               |                                                                                                                                                                                                                                                       |                                                                                   | 0.950                                                                                                                                                               |                                                                                                                                                                                                                                                       |                                                                                     | 0.950                                                                                                                                                                   |                                                                                                                                                                                                                                                             |                                                                                     | 0.950                                                                                                                                                                                                                                                       |                                                                                                                                                                                                                                                             |                                                                                     |
| Satd. Flow (perm)       | 3433                                                                                                                                                                | 5085                                                                                                                                                                                                                                                  | 1583                                                                              | 3433                                                                                                                                                                | 5085                                                                                                                                                                                                                                                  | 1583                                                                                | 3433                                                                                                                                                                    | 5085                                                                                                                                                                                                                                                        | 1583                                                                                | 3433                                                                                                                                                                                                                                                        | 5085                                                                                                                                                                                                                                                        | 1583                                                                                |
| Satd. Flow (RTOR)       |                                                                                                                                                                     |                                                                                                                                                                                                                                                       | 382                                                                               |                                                                                                                                                                     |                                                                                                                                                                                                                                                       | 382                                                                                 |                                                                                                                                                                         |                                                                                                                                                                                                                                                             | 438                                                                                 |                                                                                                                                                                                                                                                             |                                                                                                                                                                                                                                                             | 382                                                                                 |
| Lane Group Flow (vph)   | 1                                                                                                                                                                   | 1664                                                                                                                                                                                                                                                  | 172                                                                               | 139                                                                                                                                                                 | 1463                                                                                                                                                                                                                                                  | 1                                                                                   | 82                                                                                                                                                                      | 1                                                                                                                                                                                                                                                           | 121                                                                                 | 8                                                                                                                                                                                                                                                           | 2                                                                                                                                                                                                                                                           | 13                                                                                  |
| Turn Type               | Prot                                                                                                                                                                | NA                                                                                                                                                                                                                                                    | Free                                                                              | Prot                                                                                                                                                                | NA                                                                                                                                                                                                                                                    | Free                                                                                | Prot                                                                                                                                                                    | NA                                                                                                                                                                                                                                                          | Free                                                                                | Prot                                                                                                                                                                                                                                                        | NA                                                                                                                                                                                                                                                          | Free                                                                                |
| Protected Phases        | 5                                                                                                                                                                   | 2                                                                                                                                                                                                                                                     |                                                                                   | 1                                                                                                                                                                   | 6                                                                                                                                                                                                                                                     |                                                                                     | 7                                                                                                                                                                       | 4                                                                                                                                                                                                                                                           |                                                                                     | 3                                                                                                                                                                                                                                                           | 8                                                                                                                                                                                                                                                           |                                                                                     |
| Permitted Phases        |                                                                                                                                                                     |                                                                                                                                                                                                                                                       | Free                                                                              |                                                                                                                                                                     |                                                                                                                                                                                                                                                       | Free                                                                                |                                                                                                                                                                         |                                                                                                                                                                                                                                                             | Free                                                                                |                                                                                                                                                                                                                                                             |                                                                                                                                                                                                                                                             | Free                                                                                |
| Detector Phase          | 5                                                                                                                                                                   | 2                                                                                                                                                                                                                                                     |                                                                                   | 1                                                                                                                                                                   | 6                                                                                                                                                                                                                                                     |                                                                                     | 7                                                                                                                                                                       | 4                                                                                                                                                                                                                                                           |                                                                                     | 3                                                                                                                                                                                                                                                           | 8                                                                                                                                                                                                                                                           |                                                                                     |
| Switch Phase            |                                                                                                                                                                     |                                                                                                                                                                                                                                                       |                                                                                   |                                                                                                                                                                     |                                                                                                                                                                                                                                                       |                                                                                     |                                                                                                                                                                         |                                                                                                                                                                                                                                                             |                                                                                     |                                                                                                                                                                                                                                                             |                                                                                                                                                                                                                                                             |                                                                                     |
| Minimum Initial (s)     | 5.0                                                                                                                                                                 | 5.0                                                                                                                                                                                                                                                   |                                                                                   | 5.0                                                                                                                                                                 | 5.0                                                                                                                                                                                                                                                   |                                                                                     | 5.0                                                                                                                                                                     | 5.0                                                                                                                                                                                                                                                         |                                                                                     | 5.0                                                                                                                                                                                                                                                         | 5.0                                                                                                                                                                                                                                                         |                                                                                     |
| Minimum Split (s)       | 11.0                                                                                                                                                                | 11.0                                                                                                                                                                                                                                                  |                                                                                   | 11.0                                                                                                                                                                | 11.0                                                                                                                                                                                                                                                  |                                                                                     | 11.0                                                                                                                                                                    | 11.0                                                                                                                                                                                                                                                        |                                                                                     | 11.0                                                                                                                                                                                                                                                        | 11.0                                                                                                                                                                                                                                                        |                                                                                     |
| Total Split (s)         | 11.0                                                                                                                                                                | 27.0                                                                                                                                                                                                                                                  |                                                                                   | 11.0                                                                                                                                                                | 27.0                                                                                                                                                                                                                                                  |                                                                                     | 11.0                                                                                                                                                                    | 11.0                                                                                                                                                                                                                                                        |                                                                                     | 11.0                                                                                                                                                                                                                                                        | 11.0                                                                                                                                                                                                                                                        |                                                                                     |
| Total Split (%)         | 18.3%                                                                                                                                                               | 45.0%                                                                                                                                                                                                                                                 |                                                                                   | 18.3%                                                                                                                                                               | 45.0%                                                                                                                                                                                                                                                 |                                                                                     | 18.3%                                                                                                                                                                   | 18.3%                                                                                                                                                                                                                                                       |                                                                                     | 18.3%                                                                                                                                                                                                                                                       | 18.3%                                                                                                                                                                                                                                                       |                                                                                     |
| Yellow Time (s)         | 4.0                                                                                                                                                                 | 4.0                                                                                                                                                                                                                                                   |                                                                                   | 4.0                                                                                                                                                                 | 4.0                                                                                                                                                                                                                                                   |                                                                                     | 4.0                                                                                                                                                                     | 4.0                                                                                                                                                                                                                                                         |                                                                                     | 4.0                                                                                                                                                                                                                                                         | 4.0                                                                                                                                                                                                                                                         |                                                                                     |
| All-Red Time (s)        | 2.0                                                                                                                                                                 | 2.0                                                                                                                                                                                                                                                   |                                                                                   | 2.0                                                                                                                                                                 | 2.0                                                                                                                                                                                                                                                   |                                                                                     | 2.0                                                                                                                                                                     | 2.0                                                                                                                                                                                                                                                         |                                                                                     | 2.0                                                                                                                                                                                                                                                         | 2.0                                                                                                                                                                                                                                                         |                                                                                     |
| Lost Time Adjust (s)    | 0.0                                                                                                                                                                 | 0.0                                                                                                                                                                                                                                                   |                                                                                   | 0.0                                                                                                                                                                 | 0.0                                                                                                                                                                                                                                                   |                                                                                     | 0.0                                                                                                                                                                     | 0.0                                                                                                                                                                                                                                                         |                                                                                     | 0.0                                                                                                                                                                                                                                                         | 0.0                                                                                                                                                                                                                                                         |                                                                                     |
| Total Lost Time (s)     | 6.0                                                                                                                                                                 | 6.0                                                                                                                                                                                                                                                   |                                                                                   | 6.0                                                                                                                                                                 | 6.0                                                                                                                                                                                                                                                   |                                                                                     | 6.0                                                                                                                                                                     | 6.0                                                                                                                                                                                                                                                         |                                                                                     | 6.0                                                                                                                                                                                                                                                         | 6.0                                                                                                                                                                                                                                                         |                                                                                     |
| Lead/Lag                | Lead                                                                                                                                                                | Lag                                                                                                                                                                                                                                                   |                                                                                   | Lead                                                                                                                                                                | Lag                                                                                                                                                                                                                                                   |                                                                                     | Lead                                                                                                                                                                    | Lag                                                                                                                                                                                                                                                         |                                                                                     | Lead                                                                                                                                                                                                                                                        | Lag                                                                                                                                                                                                                                                         |                                                                                     |
| Lead-Lag Optimize?      | Yes                                                                                                                                                                 | Yes                                                                                                                                                                                                                                                   |                                                                                   | Yes                                                                                                                                                                 | Yes                                                                                                                                                                                                                                                   |                                                                                     | Yes                                                                                                                                                                     | Yes                                                                                                                                                                                                                                                         |                                                                                     | Yes                                                                                                                                                                                                                                                         | Yes                                                                                                                                                                                                                                                         |                                                                                     |
| Recall Mode             | None                                                                                                                                                                | C-Max                                                                                                                                                                                                                                                 |                                                                                   | None                                                                                                                                                                | C-Max                                                                                                                                                                                                                                                 |                                                                                     | None                                                                                                                                                                    | None                                                                                                                                                                                                                                                        |                                                                                     | None                                                                                                                                                                                                                                                        | None                                                                                                                                                                                                                                                        |                                                                                     |
| Act Effect Green (s)    | 5.4                                                                                                                                                                 | 33.4                                                                                                                                                                                                                                                  | 60.0                                                                              | 6.8                                                                                                                                                                 | 41.7                                                                                                                                                                                                                                                  | 60.0                                                                                | 5.3                                                                                                                                                                     | 5.4                                                                                                                                                                                                                                                         | 60.0                                                                                | 5.0                                                                                                                                                                                                                                                         | 5.1                                                                                                                                                                                                                                                         | 60.0                                                                                |
| Actuated g/C Ratio      | 0.09                                                                                                                                                                | 0.56                                                                                                                                                                                                                                                  | 1.00                                                                              | 0.11                                                                                                                                                                | 0.70                                                                                                                                                                                                                                                  | 1.00                                                                                | 0.09                                                                                                                                                                    | 0.09                                                                                                                                                                                                                                                        | 1.00                                                                                | 0.08                                                                                                                                                                                                                                                        | 0.09                                                                                                                                                                                                                                                        | 1.00                                                                                |
| v/c Ratio               | 0.00                                                                                                                                                                | 0.59                                                                                                                                                                                                                                                  | 0.11                                                                              | 0.36                                                                                                                                                                | 0.41                                                                                                                                                                                                                                                  | 0.00                                                                                | 0.27                                                                                                                                                                    | 0.00                                                                                                                                                                                                                                                        | 0.08                                                                                | 0.03                                                                                                                                                                                                                                                        | 0.00                                                                                                                                                                                                                                                        | 0.01                                                                                |
| Control Delay (s/veh)   | 33.0                                                                                                                                                                | 11.6                                                                                                                                                                                                                                                  | 0.1                                                                               | 32.5                                                                                                                                                                | 8.0                                                                                                                                                                                                                                                   | 0.0                                                                                 | 28.1                                                                                                                                                                    | 25.0                                                                                                                                                                                                                                                        | 0.1                                                                                 | 25.6                                                                                                                                                                                                                                                        | 25.5                                                                                                                                                                                                                                                        | 0.0                                                                                 |
| 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                                                                                 |
| Total Delay (s/veh)     | 33.0                                                                                                                                                                | 11.6                                                                                                                                                                                                                                                  | 0.1                                                                               | 32.5                                                                                                                                                                | 8.0                                                                                                                                                                                                                                                   | 0.0                                                                                 | 28.1                                                                                                                                                                    | 25.0                                                                                                                                                                                                                                                        | 0.1                                                                                 | 25.6                                                                                                                                                                                                                                                        | 25.5                                                                                                                                                                                                                                                        | 0.0                                                                                 |
| LOS                     | C                                                                                                                                                                   | B                                                                                                                                                                                                                                                     | A                                                                                 | C                                                                                                                                                                   | A                                                                                                                                                                                                                                                     | A                                                                                   | C                                                                                                                                                                       | C                                                                                                                                                                                                                                                           | A                                                                                   | C                                                                                                                                                                                                                                                           | C                                                                                                                                                                                                                                                           | A                                                                                   |
| Approach Delay (s/veh)  |                                                                                                                                                                     | 10.6                                                                                                                                                                                                                                                  |                                                                                   |                                                                                                                                                                     | 10.1                                                                                                                                                                                                                                                  |                                                                                     |                                                                                                                                                                         | 11.5                                                                                                                                                                                                                                                        |                                                                                     |                                                                                                                                                                                                                                                             | 11.1                                                                                                                                                                                                                                                        |                                                                                     |
| Approach LOS            |                                                                                                                                                                     | B                                                                                                                                                                                                                                                     |                                                                                   |                                                                                                                                                                     | B                                                                                                                                                                                                                                                     |                                                                                     |                                                                                                                                                                         | B                                                                                                                                                                                                                                                           |                                                                                     |                                                                                                                                                                                                                                                             | B                                                                                                                                                                                                                                                           |                                                                                     |
| Queue Length 50th (ft)  | 0                                                                                                                                                                   | 182                                                                                                                                                                                                                                                   | 0                                                                                 | 40                                                                                                                                                                  | 57                                                                                                                                                                                                                                                    | 0                                                                                   | 14                                                                                                                                                                      | 0                                                                                                                                                                                                                                                           | 0                                                                                   | 1                                                                                                                                                                                                                                                           | 0                                                                                                                                                                                                                                                           | 0                                                                                   |
| Queue Length 95th (ft)  | m0                                                                                                                                                                  | #301                                                                                                                                                                                                                                                  | 0                                                                                 | 71                                                                                                                                                                  | 305                                                                                                                                                                                                                                                   | m0                                                                                  | 32                                                                                                                                                                      | 1                                                                                                                                                                                                                                                           | 0                                                                                   | 7                                                                                                                                                                                                                                                           | 2                                                                                                                                                                                                                                                           | 0                                                                                   |
| Internal Link Dist (ft) |                                                                                                                                                                     | 712                                                                                                                                                                                                                                                   |                                                                                   |                                                                                                                                                                     | 722                                                                                                                                                                                                                                                   |                                                                                     |                                                                                                                                                                         | 667                                                                                                                                                                                                                                                         |                                                                                     |                                                                                                                                                                                                                                                             | 695                                                                                                                                                                                                                                                         |                                                                                     |
| Turn Bay Length (ft)    | 285                                                                                                                                                                 |                                                                                                                                                                                                                                                       |                                                                                   | 285                                                                                                                                                                 |                                                                                                                                                                                                                                                       | 225                                                                                 | 185                                                                                                                                                                     |                                                                                                                                                                                                                                                             | 185                                                                                 | 185                                                                                                                                                                                                                                                         |                                                                                                                                                                                                                                                             | 185                                                                                 |
| Base Capacity (vph)     | 308                                                                                                                                                                 | 2834                                                                                                                                                                                                                                                  | 1583                                                                              | 390                                                                                                                                                                 | 3533                                                                                                                                                                                                                                                  | 1583                                                                                | 303                                                                                                                                                                     | 457                                                                                                                                                                                                                                                         | 1583                                                                                | 286                                                                                                                                                                                                                                                         | 432                                                                                                                                                                                                                                                         | 1583                                                                                |
| Starvation Cap Reductn  | 0                                                                                                                                                                   | 0                                                                                                                                                                                                                                                     | 0                                                                                 | 0                                                                                                                                                                   | 0                                                                                                                                                                                                                                                     | 0                                                                                   | 0                                                                                                                                                                       | 0                                                                                                                                                                                                                                                           | 0                                                                                   | 0                                                                                                                                                                                                                                                           | 0                                                                                                                                                                                                                                                           | 0                                                                                   |
| Spillback Cap Reductn   | 0                                                                                                                                                                   | 0                                                                                                                                                                                                                                                     | 0                                                                                 | 0                                                                                                                                                                   | 0                                                                                                                                                                                                                                                     | 0                                                                                   | 0                                                                                                                                                                       | 0                                                                                                                                                                                                                                                           | 0                                                                                   | 0                                                                                                                                                                                                                                                           | 0                                                                                                                                                                                                                                                           | 0                                                                                   |
| Storage Cap Reductn     | 0                                                                                                                                                                   | 0                                                                                                                                                                                                                                                     | 0                                                                                 | 0                                                                                                                                                                   | 0                                                                                                                                                                                                                                                     | 0                                                                                   | 0                                                                                                                                                                       | 0                                                                                                                                                                                                                                                           | 0                                                                                   | 0                                                                                                                                                                                                                                                           | 0                                                                                                                                                                                                                                                           | 0                                                                                   |
| Reduced v/c Ratio       | 0.00                                                                                                                                                                | 0.59                                                                                                                                                                                                                                                  | 0.11                                                                              | 0.36                                                                                                                                                                | 0.41                                                                                                                                                                                                                                                  | 0.00                                                                                | 0.27                                                                                                                                                                    | 0.00                                                                                                                                                                                                                                                        | 0.08                                                                                | 0.03                                                                                                                                                                                                                                                        | 0.00                                                                                                                                                                                                                                                        | 0.01                                                                                |

### Intersection Summary

Cycle Length: 60

Actuated Cycle Length: 60

Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Green

Natural Cycle: 60

Control Type: Actuated-Coordinated

Timings  
 2: Banning Lewis Parkway & E Woodmen Road

Existing Traffic Conditions  
 PM Peak Traffic Hour

Maximum v/c Ratio: 0.59

Intersection Signal Delay (s/veh): 10.4

Intersection LOS: B

Intersection Capacity Utilization 57.6%

ICU Level of Service B

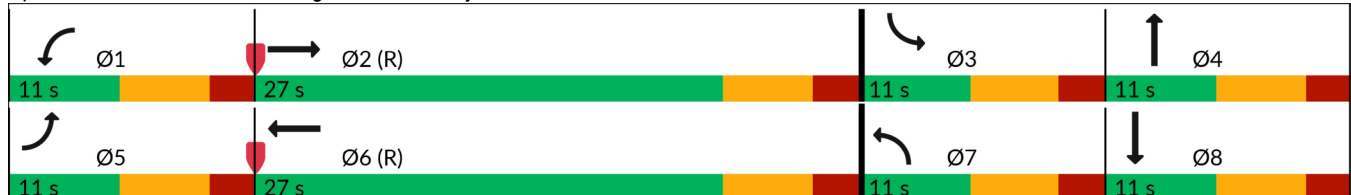
Analysis Period (min) 15

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

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 2: Banning Lewis Parkway & E Woodmen Road



Timings

3: Golden Sage Road & E Woodmen Road

Existing Traffic Conditions

PM Peak Traffic Hour

|                         |  |  |  |  |  |  |  |  |  |  |  |  |
|-------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Lane Group              | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | WBR                                                                               | NBL                                                                                | NBT                                                                                 | NBR                                                                                 | SBL                                                                                 | SBT                                                                                 | SBR                                                                                 |
| Lane Configurations     |  |  |  |  |  |  |  |  |  |  |  |  |
| Traffic Volume (vph)    | 256                                                                               | 1300                                                                              | 118                                                                               | 39                                                                                | 1174                                                                              | 7                                                                                 | 47                                                                                 | 14                                                                                  | 11                                                                                  | 14                                                                                  | 12                                                                                  | 202                                                                                 |
| Future Volume (vph)     | 256                                                                               | 1300                                                                              | 118                                                                               | 39                                                                                | 1174                                                                              | 7                                                                                 | 47                                                                                 | 14                                                                                  | 11                                                                                  | 14                                                                                  | 12                                                                                  | 202                                                                                 |
| Satd. Flow (prot)       | 1770                                                                              | 3539                                                                              | 1583                                                                              | 1770                                                                              | 5085                                                                              | 1583                                                                              | 1770                                                                               | 1863                                                                                | 1583                                                                                | 1770                                                                                | 1598                                                                                | 0                                                                                   |
| Flt Permitted           | 0.148                                                                             |                                                                                   |                                                                                   | 0.146                                                                             |                                                                                   |                                                                                   | 0.376                                                                              |                                                                                     |                                                                                     | 0.748                                                                               |                                                                                     |                                                                                     |
| Satd. Flow (perm)       | 276                                                                               | 3539                                                                              | 1583                                                                              | 272                                                                               | 5085                                                                              | 1583                                                                              | 700                                                                                | 1863                                                                                | 1583                                                                                | 1393                                                                                | 1598                                                                                | 0                                                                                   |
| Satd. Flow (RTOR)       |                                                                                   |                                                                                   | 128                                                                               |                                                                                   |                                                                                   | 127                                                                               |                                                                                    |                                                                                     | 182                                                                                 |                                                                                     | 220                                                                                 |                                                                                     |
| Lane Group Flow (vph)   | 278                                                                               | 1413                                                                              | 128                                                                               | 42                                                                                | 1276                                                                              | 8                                                                                 | 51                                                                                 | 15                                                                                  | 12                                                                                  | 15                                                                                  | 233                                                                                 | 0                                                                                   |
| Turn Type               | pm+pt                                                                             | NA                                                                                | Perm                                                                              | pm+pt                                                                             | NA                                                                                | Perm                                                                              | Perm                                                                               | NA                                                                                  | Free                                                                                | Perm                                                                                | NA                                                                                  |                                                                                     |
| Protected Phases        | 5                                                                                 | 2                                                                                 |                                                                                   | 1                                                                                 | 6                                                                                 |                                                                                   |                                                                                    | 4                                                                                   |                                                                                     |                                                                                     | 8                                                                                   |                                                                                     |
| Permitted Phases        | 2                                                                                 |                                                                                   | 2                                                                                 | 6                                                                                 |                                                                                   | 6                                                                                 | 4                                                                                  |                                                                                     | Free                                                                                | 8                                                                                   |                                                                                     |                                                                                     |
| Detector Phase          | 5                                                                                 | 2                                                                                 | 2                                                                                 | 1                                                                                 | 6                                                                                 | 6                                                                                 | 4                                                                                  | 4                                                                                   |                                                                                     | 8                                                                                   | 8                                                                                   |                                                                                     |
| Switch Phase            |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Minimum Initial (s)     | 5.0                                                                               | 5.0                                                                               | 5.0                                                                               | 5.0                                                                               | 5.0                                                                               | 5.0                                                                               | 5.0                                                                                | 5.0                                                                                 |                                                                                     | 5.0                                                                                 | 5.0                                                                                 |                                                                                     |
| Minimum Split (s)       | 11.0                                                                              | 11.0                                                                              | 11.0                                                                              | 11.0                                                                              | 11.0                                                                              | 11.0                                                                              | 10.0                                                                               | 10.0                                                                                |                                                                                     | 10.0                                                                                | 10.0                                                                                |                                                                                     |
| Total Split (s)         | 32.0                                                                              | 80.0                                                                              | 80.0                                                                              | 11.0                                                                              | 59.0                                                                              | 59.0                                                                              | 29.0                                                                               | 29.0                                                                                |                                                                                     | 29.0                                                                                | 29.0                                                                                |                                                                                     |
| Total Split (%)         | 26.7%                                                                             | 66.7%                                                                             | 66.7%                                                                             | 9.2%                                                                              | 49.2%                                                                             | 49.2%                                                                             | 24.2%                                                                              | 24.2%                                                                               |                                                                                     | 24.2%                                                                               | 24.2%                                                                               |                                                                                     |
| Yellow Time (s)         | 4.0                                                                               | 4.0                                                                               | 4.0                                                                               | 4.0                                                                               | 4.0                                                                               | 4.0                                                                               | 3.0                                                                                | 3.0                                                                                 |                                                                                     | 3.0                                                                                 | 3.0                                                                                 |                                                                                     |
| All-Red Time (s)        | 2.0                                                                               | 2.0                                                                               | 2.0                                                                               | 2.0                                                                               | 2.0                                                                               | 2.0                                                                               | 2.0                                                                                | 2.0                                                                                 |                                                                                     | 2.0                                                                                 | 2.0                                                                                 |                                                                                     |
| Lost Time Adjust (s)    | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               | 0.0                                                                                | 0.0                                                                                 |                                                                                     | 0.0                                                                                 | 0.0                                                                                 |                                                                                     |
| Total Lost Time (s)     | 6.0                                                                               | 6.0                                                                               | 6.0                                                                               | 6.0                                                                               | 6.0                                                                               | 6.0                                                                               | 5.0                                                                                | 5.0                                                                                 |                                                                                     | 5.0                                                                                 | 5.0                                                                                 |                                                                                     |
| Lead/Lag                | Lead                                                                              | Lag                                                                               | Lag                                                                               | Lead                                                                              | Lag                                                                               | Lag                                                                               |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Lead-Lag Optimize?      | Yes                                                                               | Yes                                                                               | Yes                                                                               | Yes                                                                               | Yes                                                                               | Yes                                                                               |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Recall Mode             | None                                                                              | C-Max                                                                             | C-Max                                                                             | None                                                                              | C-Max                                                                             | C-Max                                                                             | Max                                                                                | Max                                                                                 |                                                                                     | Max                                                                                 | Max                                                                                 |                                                                                     |
| Act Effect Green (s)    | 85.0                                                                              | 76.2                                                                              | 76.2                                                                              | 68.9                                                                              | 63.9                                                                              | 63.9                                                                              | 24.0                                                                               | 24.0                                                                                | 120.0                                                                               | 24.0                                                                                | 24.0                                                                                |                                                                                     |
| Actuated g/C Ratio      | 0.71                                                                              | 0.64                                                                              | 0.64                                                                              | 0.57                                                                              | 0.53                                                                              | 0.53                                                                              | 0.20                                                                               | 0.20                                                                                | 1.00                                                                                | 0.20                                                                                | 0.20                                                                                |                                                                                     |
| v/c Ratio               | 0.73                                                                              | 0.63                                                                              | 0.12                                                                              | 0.19                                                                              | 0.47                                                                              | 0.01                                                                              | 0.36                                                                               | 0.04                                                                                | 0.01                                                                                | 0.05                                                                                | 0.47                                                                                |                                                                                     |
| Control Delay (s/veh)   | 32.9                                                                              | 17.1                                                                              | 6.4                                                                               | 9.6                                                                               | 18.9                                                                              | 0.0                                                                               | 50.2                                                                               | 39.2                                                                                | 0.0                                                                                 | 39.6                                                                                | 9.9                                                                                 |                                                                                     |
| Queue Delay             | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               | 0.0                                                                                | 0.0                                                                                 | 0.0                                                                                 | 0.0                                                                                 | 0.0                                                                                 |                                                                                     |
| Total Delay (s/veh)     | 32.9                                                                              | 17.1                                                                              | 6.4                                                                               | 9.6                                                                               | 18.9                                                                              | 0.0                                                                               | 50.2                                                                               | 39.2                                                                                | 0.0                                                                                 | 39.6                                                                                | 9.9                                                                                 |                                                                                     |
| LOS                     | C                                                                                 | B                                                                                 | A                                                                                 | A                                                                                 | B                                                                                 | A                                                                                 | D                                                                                  | D                                                                                   | A                                                                                   | D                                                                                   | A                                                                                   |                                                                                     |
| Approach Delay (s/veh)  |                                                                                   | 18.8                                                                              |                                                                                   |                                                                                   | 18.5                                                                              |                                                                                   |                                                                                    | 40.3                                                                                |                                                                                     |                                                                                     | 11.7                                                                                |                                                                                     |
| Approach LOS            |                                                                                   | B                                                                                 |                                                                                   |                                                                                   | B                                                                                 |                                                                                   |                                                                                    | D                                                                                   |                                                                                     |                                                                                     | B                                                                                   |                                                                                     |
| Queue Length 50th (ft)  | 131                                                                               | 293                                                                               | 25                                                                                | 9                                                                                 | 213                                                                               | 0                                                                                 | 34                                                                                 | 10                                                                                  | 0                                                                                   | 9                                                                                   | 8                                                                                   |                                                                                     |
| Queue Length 95th (ft)  | 233                                                                               | 348                                                                               | 61                                                                                | 19                                                                                | 296                                                                               | 0                                                                                 | 76                                                                                 | 29                                                                                  | 0                                                                                   | 29                                                                                  | 78                                                                                  |                                                                                     |
| Internal Link Dist (ft) |                                                                                   | 600                                                                               |                                                                                   |                                                                                   | 542                                                                               |                                                                                   |                                                                                    | 565                                                                                 |                                                                                     |                                                                                     | 379                                                                                 |                                                                                     |
| Turn Bay Length (ft)    | 530                                                                               |                                                                                   | 380                                                                               | 330                                                                               |                                                                                   | 360                                                                               | 125                                                                                |                                                                                     | 195                                                                                 | 110                                                                                 |                                                                                     |                                                                                     |
| Base Capacity (vph)     | 519                                                                               | 2247                                                                              | 1052                                                                              | 218                                                                               | 2707                                                                              | 902                                                                               | 140                                                                                | 372                                                                                 | 1583                                                                                | 278                                                                                 | 495                                                                                 |                                                                                     |
| Starvation Cap Reductn  | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                  | 0                                                                                   | 0                                                                                   | 0                                                                                   | 0                                                                                   |                                                                                     |
| Spillback Cap Reductn   | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                  | 0                                                                                   | 0                                                                                   | 0                                                                                   | 0                                                                                   |                                                                                     |
| Storage Cap Reductn     | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                  | 0                                                                                   | 0                                                                                   | 0                                                                                   | 0                                                                                   |                                                                                     |
| Reduced v/c Ratio       | 0.54                                                                              | 0.63                                                                              | 0.12                                                                              | 0.19                                                                              | 0.47                                                                              | 0.01                                                                              | 0.36                                                                               | 0.04                                                                                | 0.01                                                                                | 0.05                                                                                | 0.47                                                                                |                                                                                     |

Intersection Summary

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green

Natural Cycle: 55

Control Type: Actuated-Coordinated

Timings  
3: Golden Sage Road & E Woodmen Road

Existing Traffic Conditions  
PM Peak Traffic Hour

Maximum v/c Ratio: 0.73

Intersection Signal Delay (s/veh): 18.7

Intersection LOS: B

Intersection Capacity Utilization 75.7%

ICU Level of Service D

Analysis Period (min) 15

Splits and Phases: 3: Golden Sage Road & E Woodmen Road



HCM Unsignalized Intersection Capacity Analysis  
4: Golden Sage Road & Woodmen Frontage Road

Existing Traffic Conditions  
PM Peak Traffic Hour

|                                   |  |  |  |  |  |  |
|-----------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|
| Movement                          | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | NBL                                                                               | NBR                                                                               |
| Lane Configurations               |  |                                                                                   |                                                                                   |  |  |                                                                                   |
| Traffic Volume (veh/h)            | 5                                                                                 | 1                                                                                 | 245                                                                               | 5                                                                                 | 304                                                                               | 1                                                                                 |
| Future Volume (Veh/h)             | 5                                                                                 | 1                                                                                 | 245                                                                               | 5                                                                                 | 304                                                                               | 1                                                                                 |
| Sign Control                      | Stop                                                                              |                                                                                   |                                                                                   | Stop                                                                              | Free                                                                              |                                                                                   |
| Grade                             | 0%                                                                                |                                                                                   |                                                                                   | 0%                                                                                | 0%                                                                                |                                                                                   |
| Peak Hour Factor                  | 0.92                                                                              | 0.92                                                                              | 0.92                                                                              | 0.92                                                                              | 0.92                                                                              | 0.92                                                                              |
| Hourly flow rate (vph)            | 5                                                                                 | 1                                                                                 | 266                                                                               | 5                                                                                 | 330                                                                               | 1                                                                                 |
| Pedestrians                       |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Lane Width (ft)                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Walking Speed (ft/s)              |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Percent Blockage                  |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Right turn flare (veh)            |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Median type                       |                                                                                   |                                                                                   |                                                                                   |                                                                                   | None                                                                              |                                                                                   |
| Median storage (veh)              |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Upstream signal (ft)              |                                                                                   |                                                                                   |                                                                                   |                                                                                   | 459                                                                               |                                                                                   |
| pX, platoon unblocked             |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| vC, conflicting volume            | 661                                                                               | 0                                                                                 | 664                                                                               | 661                                                                               | 0                                                                                 |                                                                                   |
| vC1, stage 1 conf vol             |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| vC2, stage 2 conf vol             |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| vCu, unblocked vol                | 661                                                                               | 0                                                                                 | 664                                                                               | 661                                                                               | 0                                                                                 |                                                                                   |
| tC, single (s)                    | 6.5                                                                               | 6.2                                                                               | 7.1                                                                               | 6.5                                                                               | 4.1                                                                               |                                                                                   |
| tC, 2 stage (s)                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| tF (s)                            | 4.0                                                                               | 3.3                                                                               | 3.5                                                                               | 4.0                                                                               | 2.2                                                                               |                                                                                   |
| p0 queue free %                   | 98                                                                                | 100                                                                               | 15                                                                                | 98                                                                                | 80                                                                                |                                                                                   |
| cM capacity (veh/h)               | 305                                                                               | 1085                                                                              | 311                                                                               | 305                                                                               | 1623                                                                              |                                                                                   |
| Direction, Lane #                 | EB 1                                                                              | WB 1                                                                              | NB 1                                                                              |                                                                                   |                                                                                   |                                                                                   |
| Volume Total                      | 6                                                                                 | 271                                                                               | 331                                                                               |                                                                                   |                                                                                   |                                                                                   |
| Volume Left                       | 0                                                                                 | 266                                                                               | 330                                                                               |                                                                                   |                                                                                   |                                                                                   |
| Volume Right                      | 1                                                                                 | 0                                                                                 | 1                                                                                 |                                                                                   |                                                                                   |                                                                                   |
| cSH                               | 346                                                                               | 311                                                                               | 1623                                                                              |                                                                                   |                                                                                   |                                                                                   |
| Volume to Capacity                | 0.02                                                                              | 0.87                                                                              | 0.20                                                                              |                                                                                   |                                                                                   |                                                                                   |
| Queue Length 95th (ft)            | 1                                                                                 | 197                                                                               | 19                                                                                |                                                                                   |                                                                                   |                                                                                   |
| Control Delay (s/veh)             | 15.6                                                                              | 60.7                                                                              | 7.8                                                                               |                                                                                   |                                                                                   |                                                                                   |
| Lane LOS                          | C                                                                                 | F                                                                                 | A                                                                                 |                                                                                   |                                                                                   |                                                                                   |
| Approach Delay (s/veh)            | 15.6                                                                              | 60.7                                                                              | 7.8                                                                               |                                                                                   |                                                                                   |                                                                                   |
| Approach LOS                      | C                                                                                 | F                                                                                 |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Intersection Summary              |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Average Delay                     |                                                                                   | 31.5                                                                              |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Intersection Capacity Utilization |                                                                                   | 44.1%                                                                             |                                                                                   | ICU Level of Service                                                              |                                                                                   | A                                                                                 |
| Analysis Period (min)             |                                                                                   | 15                                                                                |                                                                                   |                                                                                   |                                                                                   |                                                                                   |

| Intersection             |        |                                                                                   |        |       |                                                                                   |       |        |                                                                                   |      |       |                                                                                     |      |
|--------------------------|--------|-----------------------------------------------------------------------------------|--------|-------|-----------------------------------------------------------------------------------|-------|--------|-----------------------------------------------------------------------------------|------|-------|-------------------------------------------------------------------------------------|------|
| Int Delay, s/veh         | 4.4    |                                                                                   |        |       |                                                                                   |       |        |                                                                                   |      |       |                                                                                     |      |
| Movement                 | EBL    | EBT                                                                               | EBR    | WBL   | WBT                                                                               | WBR   | NBL    | NBT                                                                               | NBR  | SBL   | SBT                                                                                 | SBR  |
| Lane Configurations      |        |  |        |       |  |       |        |  |      |       |  |      |
| Traffic Vol, veh/h       | 4      | 4                                                                                 | 8      | 18    | 6                                                                                 | 5     | 7      | 19                                                                                | 10   | 1     | 18                                                                                  | 5    |
| Future Vol, veh/h        | 4      | 4                                                                                 | 8      | 18    | 6                                                                                 | 5     | 7      | 19                                                                                | 10   | 1     | 18                                                                                  | 5    |
| Conflicting Peds, #/hr   | 0      | 0                                                                                 | 0      | 0     | 0                                                                                 | 0     | 0      | 0                                                                                 | 0    | 0     | 0                                                                                   | 0    |
| Sign Control             | Stop   | Stop                                                                              | Stop   | Stop  | Stop                                                                              | Stop  | Free   | Free                                                                              | Free | Free  | Free                                                                                | Free |
| RT Channelized           | -      | -                                                                                 | None   | -     | -                                                                                 | None  | -      | -                                                                                 | None | -     | -                                                                                   | 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                | 4      | 4                                                                                 | 9      | 20    | 7                                                                                 | 5     | 8      | 21                                                                                | 11   | 1     | 20                                                                                  | 5    |
|                          |        |                                                                                   |        |       |                                                                                   |       |        |                                                                                   |      |       |                                                                                     |      |
| Major/Minor              | Minor2 |                                                                                   | Minor1 |       | Major1                                                                            |       | Major2 |                                                                                   |      |       |                                                                                     |      |
| Conflicting Flow All     | 64     | 71                                                                                | 22     | 65    | 68                                                                                | 26    | 25     | 0                                                                                 | 0    | 32    | 0                                                                                   | 0    |
| Stage 1                  | 24     | 24                                                                                | -      | 41    | 41                                                                                | -     | -      | -                                                                                 | -    | -     | -                                                                                   | -    |
| Stage 2                  | 39     | 47                                                                                | -      | 24    | 27                                                                                | -     | -      | -                                                                                 | -    | -     | -                                                                                   | -    |
| Critical Hdwy            | 7.12   | 6.52                                                                              | 6.22   | 7.12  | 6.52                                                                              | 6.22  | 4.12   | -                                                                                 | -    | 4.12  | -                                                                                   | -    |
| Critical Hdwy Stg 1      | 6.12   | 5.52                                                                              | -      | 6.12  | 5.52                                                                              | -     | -      | -                                                                                 | -    | -     | -                                                                                   | -    |
| Critical Hdwy Stg 2      | 6.12   | 5.52                                                                              | -      | 6.12  | 5.52                                                                              | -     | -      | -                                                                                 | -    | -     | -                                                                                   | -    |
| Follow-up Hdwy           | 3.518  | 4.018                                                                             | 3.318  | 3.518 | 4.018                                                                             | 3.318 | 2.218  | -                                                                                 | -    | 2.218 | -                                                                                   | -    |
| Pot Cap-1 Maneuver       | 931    | 819                                                                               | 1055   | 928   | 822                                                                               | 1050  | 1589   | -                                                                                 | -    | 1581  | -                                                                                   | -    |
| Stage 1                  | 993    | 875                                                                               | -      | 973   | 861                                                                               | -     | -      | -                                                                                 | -    | -     | -                                                                                   | -    |
| Stage 2                  | 976    | 856                                                                               | -      | 994   | 873                                                                               | -     | -      | -                                                                                 | -    | -     | -                                                                                   | -    |
| Platoon blocked, %       |        |                                                                                   |        |       |                                                                                   |       |        | -                                                                                 | -    |       | -                                                                                   | -    |
| Mov Cap-1 Maneuver       | 913    | 815                                                                               | 1055   | 911   | 818                                                                               | 1050  | 1589   | -                                                                                 | -    | 1581  | -                                                                                   | -    |
| Mov Cap-2 Maneuver       | 913    | 815                                                                               | -      | 911   | 818                                                                               | -     | -      | -                                                                                 | -    | -     | -                                                                                   | -    |
| Stage 1                  | 993    | 874                                                                               | -      | 969   | 856                                                                               | -     | -      | -                                                                                 | -    | -     | -                                                                                   | -    |
| Stage 2                  | 959    | 852                                                                               | -      | 980   | 872                                                                               | -     | -      | -                                                                                 | -    | -     | -                                                                                   | -    |
|                          |        |                                                                                   |        |       |                                                                                   |       |        |                                                                                   |      |       |                                                                                     |      |
|                          |        |                                                                                   |        |       |                                                                                   |       |        |                                                                                   |      |       |                                                                                     |      |
| Approach                 | EB     |                                                                                   | WB     |       | NB                                                                                |       | SB     |                                                                                   |      |       |                                                                                     |      |
| HCM Ctrl Dly, s/v        | 8.87   |                                                                                   | 9.1    |       | 1.41                                                                              |       | 0.3    |                                                                                   |      |       |                                                                                     |      |
| HCM LOS                  | A      |                                                                                   | A      |       |                                                                                   |       |        |                                                                                   |      |       |                                                                                     |      |
|                          |        |                                                                                   |        |       |                                                                                   |       |        |                                                                                   |      |       |                                                                                     |      |
| Minor Lane/Major Mvmt    | NBL    | NBT                                                                               | NBR    | EBLn1 | WBLn1                                                                             | SBL   | SBT    | SBR                                                                               |      |       |                                                                                     |      |
| Capacity (veh/h)         | 327    | -                                                                                 | -      | 948   | 910                                                                               | 72    | -      | -                                                                                 |      |       |                                                                                     |      |
| HCM Lane V/C Ratio       | 0.005  | -                                                                                 | -      | 0.018 | 0.035                                                                             | 0.001 | -      | -                                                                                 |      |       |                                                                                     |      |
| HCM Ctrl Dly (s/v)       | 7.3    | 0                                                                                 | -      | 8.9   | 9.1                                                                               | 7.3   | 0      | -                                                                                 |      |       |                                                                                     |      |
| HCM Lane LOS             | A      | A                                                                                 | -      | A     | A                                                                                 | A     | A      | -                                                                                 |      |       |                                                                                     |      |
| HCM 95th %tile Q(veh)    | 0      | -                                                                                 | -      | 0.1   | 0.1                                                                               | 0     | -      | -                                                                                 |      |       |                                                                                     |      |

# Timings

1: Mohawk Road & E Woodmen Road

Background Traffic Conditions

AM Peak Traffic Hour - 2030

|                                                            |  |                                                                                                                                                                      |  |  |                                                                                                                                                                      |  |  |                                                                                      |  |  |  |  |
|------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Lane Group                                                 | EBL                                                                               | EBT                                                                                                                                                                                                                                                   | EBR                                                                               | WBL                                                                               | WBT                                                                                                                                                                                                                                                   | WBR                                                                               | NBL                                                                                 | NBT                                                                                                                                                                     | NBR                                                                                 | SBL                                                                                 | SBT                                                                                 | SBR                                                                                 |
| Lane Configurations                                        |  |    |  |  |    |  |                                                                                     |   |                                                                                     |  |  |                                                                                     |
| Traffic Volume (vph)                                       | 60                                                                                | 1164                                                                                                                                                                                                                                                  | 5                                                                                 | 1                                                                                 | 2267                                                                                                                                                                                                                                                  | 24                                                                                | 1                                                                                   | 5                                                                                                                                                                       | 5                                                                                   | 21                                                                                  | 5                                                                                   | 33                                                                                  |
| Future Volume (vph)                                        | 60                                                                                | 1164                                                                                                                                                                                                                                                  | 5                                                                                 | 1                                                                                 | 2267                                                                                                                                                                                                                                                  | 24                                                                                | 1                                                                                   | 5                                                                                                                                                                       | 5                                                                                   | 21                                                                                  | 5                                                                                   | 33                                                                                  |
| Satd. Flow (prot)                                          | 1770                                                                              | 5085                                                                                                                                                                                                                                                  | 1583                                                                              | 1770                                                                              | 5085                                                                                                                                                                                                                                                  | 1583                                                                              | 0                                                                                   | 1740                                                                                                                                                                    | 0                                                                                   | 1770                                                                                | 1617                                                                                | 0                                                                                   |
| Flt Permitted                                              | 0.051                                                                             |                                                                                                                                                                                                                                                       |                                                                                   | 0.208                                                                             |                                                                                                                                                                                                                                                       |                                                                                   |                                                                                     | 0.964                                                                                                                                                                   |                                                                                     | 0.750                                                                               |                                                                                     |                                                                                     |
| Satd. Flow (perm)                                          | 95                                                                                | 5085                                                                                                                                                                                                                                                  | 1583                                                                              | 387                                                                               | 5085                                                                                                                                                                                                                                                  | 1583                                                                              | 0                                                                                   | 1686                                                                                                                                                                    | 0                                                                                   | 1397                                                                                | 1617                                                                                | 0                                                                                   |
| Satd. Flow (RTOR)                                          |                                                                                   |                                                                                                                                                                                                                                                       | 18                                                                                |                                                                                   |                                                                                                                                                                                                                                                       | 26                                                                                |                                                                                     | 5                                                                                                                                                                       |                                                                                     |                                                                                     | 22                                                                                  |                                                                                     |
| Lane Group Flow (vph)                                      | 65                                                                                | 1265                                                                                                                                                                                                                                                  | 5                                                                                 | 1                                                                                 | 2464                                                                                                                                                                                                                                                  | 26                                                                                | 0                                                                                   | 11                                                                                                                                                                      | 0                                                                                   | 23                                                                                  | 41                                                                                  | 0                                                                                   |
| Turn Type                                                  | Perm                                                                              | NA                                                                                                                                                                                                                                                    | Perm                                                                              | Perm                                                                              | NA                                                                                                                                                                                                                                                    | Perm                                                                              | Perm                                                                                | NA                                                                                                                                                                      |                                                                                     | Perm                                                                                | NA                                                                                  |                                                                                     |
| Protected Phases                                           |                                                                                   | 2                                                                                                                                                                                                                                                     |                                                                                   |                                                                                   | 6                                                                                                                                                                                                                                                     |                                                                                   |                                                                                     | 8                                                                                                                                                                       |                                                                                     |                                                                                     | 4                                                                                   |                                                                                     |
| Permitted Phases                                           | 2                                                                                 |                                                                                                                                                                                                                                                       | 2                                                                                 | 6                                                                                 |                                                                                                                                                                                                                                                       | 6                                                                                 | 8                                                                                   |                                                                                                                                                                         |                                                                                     | 4                                                                                   |                                                                                     |                                                                                     |
| Detector Phase                                             | 2                                                                                 | 2                                                                                                                                                                                                                                                     | 2                                                                                 | 6                                                                                 | 6                                                                                                                                                                                                                                                     | 6                                                                                 | 8                                                                                   | 8                                                                                                                                                                       |                                                                                     | 4                                                                                   | 4                                                                                   |                                                                                     |
| Switch Phase                                               |                                                                                   |                                                                                                                                                                                                                                                       |                                                                                   |                                                                                   |                                                                                                                                                                                                                                                       |                                                                                   |                                                                                     |                                                                                                                                                                         |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Minimum Initial (s)                                        | 5.0                                                                               | 5.0                                                                                                                                                                                                                                                   | 5.0                                                                               | 5.0                                                                               | 5.0                                                                                                                                                                                                                                                   | 5.0                                                                               | 5.0                                                                                 | 5.0                                                                                                                                                                     |                                                                                     | 5.0                                                                                 | 5.0                                                                                 |                                                                                     |
| Minimum Split (s)                                          | 11.0                                                                              | 11.0                                                                                                                                                                                                                                                  | 11.0                                                                              | 11.0                                                                              | 11.0                                                                                                                                                                                                                                                  | 11.0                                                                              | 10.0                                                                                | 10.0                                                                                                                                                                    |                                                                                     | 10.0                                                                                | 10.0                                                                                |                                                                                     |
| Total Split (s)                                            | 109.0                                                                             | 109.0                                                                                                                                                                                                                                                 | 109.0                                                                             | 109.0                                                                             | 109.0                                                                                                                                                                                                                                                 | 109.0                                                                             | 11.0                                                                                | 11.0                                                                                                                                                                    |                                                                                     | 11.0                                                                                | 11.0                                                                                |                                                                                     |
| Total Split (%)                                            | 90.8%                                                                             | 90.8%                                                                                                                                                                                                                                                 | 90.8%                                                                             | 90.8%                                                                             | 90.8%                                                                                                                                                                                                                                                 | 90.8%                                                                             | 9.2%                                                                                | 9.2%                                                                                                                                                                    |                                                                                     | 9.2%                                                                                | 9.2%                                                                                |                                                                                     |
| Yellow Time (s)                                            | 4.0                                                                               | 4.0                                                                                                                                                                                                                                                   | 4.0                                                                               | 4.0                                                                               | 4.0                                                                                                                                                                                                                                                   | 4.0                                                                               | 3.0                                                                                 | 3.0                                                                                                                                                                     |                                                                                     | 3.0                                                                                 | 3.0                                                                                 |                                                                                     |
| All-Red Time (s)                                           | 2.0                                                                               | 2.0                                                                                                                                                                                                                                                   | 2.0                                                                               | 2.0                                                                               | 2.0                                                                                                                                                                                                                                                   | 2.0                                                                               | 2.0                                                                                 | 2.0                                                                                                                                                                     |                                                                                     | 2.0                                                                                 | 2.0                                                                                 |                                                                                     |
| Lost Time Adjust (s)                                       | 0.0                                                                               | 0.0                                                                                                                                                                                                                                                   | 0.0                                                                               | 0.0                                                                               | 0.0                                                                                                                                                                                                                                                   | 0.0                                                                               |                                                                                     | 0.0                                                                                                                                                                     |                                                                                     | 0.0                                                                                 | 0.0                                                                                 |                                                                                     |
| Total Lost Time (s)                                        | 6.0                                                                               | 6.0                                                                                                                                                                                                                                                   | 6.0                                                                               | 6.0                                                                               | 6.0                                                                                                                                                                                                                                                   | 6.0                                                                               |                                                                                     | 5.0                                                                                                                                                                     |                                                                                     | 5.0                                                                                 | 5.0                                                                                 |                                                                                     |
| Lead/Lag                                                   |                                                                                   |                                                                                                                                                                                                                                                       |                                                                                   |                                                                                   |                                                                                                                                                                                                                                                       |                                                                                   |                                                                                     |                                                                                                                                                                         |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Lead-Lag Optimize?                                         |                                                                                   |                                                                                                                                                                                                                                                       |                                                                                   |                                                                                   |                                                                                                                                                                                                                                                       |                                                                                   |                                                                                     |                                                                                                                                                                         |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Recall Mode                                                | C-Max                                                                             | C-Max                                                                                                                                                                                                                                                 | C-Max                                                                             | Max                                                                               | Max                                                                                                                                                                                                                                                   | Max                                                                               | Max                                                                                 | Max                                                                                                                                                                     |                                                                                     | Max                                                                                 | Max                                                                                 |                                                                                     |
| Act Effect Green (s)                                       | 103.0                                                                             | 103.0                                                                                                                                                                                                                                                 | 103.0                                                                             | 103.0                                                                             | 103.0                                                                                                                                                                                                                                                 | 103.0                                                                             |                                                                                     | 6.0                                                                                                                                                                     |                                                                                     | 6.0                                                                                 | 6.0                                                                                 |                                                                                     |
| Actuated g/C Ratio                                         | 0.86                                                                              | 0.86                                                                                                                                                                                                                                                  | 0.86                                                                              | 0.86                                                                              | 0.86                                                                                                                                                                                                                                                  | 0.86                                                                              |                                                                                     | 0.05                                                                                                                                                                    |                                                                                     | 0.05                                                                                | 0.05                                                                                |                                                                                     |
| v/c Ratio                                                  | 0.80                                                                              | 0.29                                                                                                                                                                                                                                                  | 0.00                                                                              | 0.00                                                                              | 0.56                                                                                                                                                                                                                                                  | 0.02                                                                              |                                                                                     | 0.12                                                                                                                                                                    |                                                                                     | 0.33                                                                                | 0.41                                                                                |                                                                                     |
| Control Delay (s/veh)                                      | 69.6                                                                              | 1.8                                                                                                                                                                                                                                                   | 0.2                                                                               | 2.0                                                                               | 4.7                                                                                                                                                                                                                                                   | 1.3                                                                               |                                                                                     | 44.6                                                                                                                                                                    |                                                                                     | 68.3                                                                                | 44.0                                                                                |                                                                                     |
| Queue Delay                                                | 0.0                                                                               | 0.0                                                                                                                                                                                                                                                   | 0.0                                                                               | 0.0                                                                               | 0.0                                                                                                                                                                                                                                                   | 0.0                                                                               |                                                                                     | 0.0                                                                                                                                                                     |                                                                                     | 0.0                                                                                 | 0.0                                                                                 |                                                                                     |
| Total Delay (s/veh)                                        | 69.6                                                                              | 1.8                                                                                                                                                                                                                                                   | 0.2                                                                               | 2.0                                                                               | 4.7                                                                                                                                                                                                                                                   | 1.3                                                                               |                                                                                     | 44.6                                                                                                                                                                    |                                                                                     | 68.3                                                                                | 44.0                                                                                |                                                                                     |
| LOS                                                        | E                                                                                 | A                                                                                                                                                                                                                                                     | A                                                                                 | A                                                                                 | A                                                                                                                                                                                                                                                     | A                                                                                 |                                                                                     | D                                                                                                                                                                       |                                                                                     | E                                                                                   | D                                                                                   |                                                                                     |
| Approach Delay (s/veh)                                     |                                                                                   | 5.1                                                                                                                                                                                                                                                   |                                                                                   |                                                                                   | 4.6                                                                                                                                                                                                                                                   |                                                                                   |                                                                                     | 44.6                                                                                                                                                                    |                                                                                     |                                                                                     | 52.7                                                                                |                                                                                     |
| Approach LOS                                               |                                                                                   | A                                                                                                                                                                                                                                                     |                                                                                   |                                                                                   | A                                                                                                                                                                                                                                                     |                                                                                   |                                                                                     | D                                                                                                                                                                       |                                                                                     |                                                                                     | D                                                                                   |                                                                                     |
| Queue Length 50th (ft)                                     | 16                                                                                | 47                                                                                                                                                                                                                                                    | 0                                                                                 | 0                                                                                 | 107                                                                                                                                                                                                                                                   | 0                                                                                 |                                                                                     | 5                                                                                                                                                                       |                                                                                     | 18                                                                                  | 14                                                                                  |                                                                                     |
| Queue Length 95th (ft)                                     | #70                                                                               | 55                                                                                                                                                                                                                                                    | 1                                                                                 | m0                                                                                | 376                                                                                                                                                                                                                                                   | m5                                                                                |                                                                                     | 25                                                                                                                                                                      |                                                                                     | 46                                                                                  | 52                                                                                  |                                                                                     |
| Internal Link Dist (ft)                                    |                                                                                   | 2474                                                                                                                                                                                                                                                  |                                                                                   |                                                                                   | 750                                                                                                                                                                                                                                                   |                                                                                   |                                                                                     | 6246                                                                                                                                                                    |                                                                                     |                                                                                     | 419                                                                                 |                                                                                     |
| Turn Bay Length (ft)                                       | 300                                                                               |                                                                                                                                                                                                                                                       | 400                                                                               | 315                                                                               |                                                                                                                                                                                                                                                       | 370                                                                               |                                                                                     |                                                                                                                                                                         |                                                                                     | 50                                                                                  |                                                                                     |                                                                                     |
| Base Capacity (vph)                                        | 81                                                                                | 4364                                                                                                                                                                                                                                                  | 1361                                                                              | 332                                                                               | 4364                                                                                                                                                                                                                                                  | 1362                                                                              |                                                                                     | 89                                                                                                                                                                      |                                                                                     | 69                                                                                  | 101                                                                                 |                                                                                     |
| 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                                                                                   |                                                                                     |
| Reduced v/c Ratio                                          | 0.80                                                                              | 0.29                                                                                                                                                                                                                                                  | 0.00                                                                              | 0.00                                                                              | 0.56                                                                                                                                                                                                                                                  | 0.02                                                                              |                                                                                     | 0.12                                                                                                                                                                    |                                                                                     | 0.33                                                                                | 0.41                                                                                |                                                                                     |
| Intersection Summary                                       |                                                                                   |                                                                                                                                                                                                                                                       |                                                                                   |                                                                                   |                                                                                                                                                                                                                                                       |                                                                                   |                                                                                     |                                                                                                                                                                         |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Cycle Length: 120                                          |                                                                                   |                                                                                                                                                                                                                                                       |                                                                                   |                                                                                   |                                                                                                                                                                                                                                                       |                                                                                   |                                                                                     |                                                                                                                                                                         |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Actuated Cycle Length: 120                                 |                                                                                   |                                                                                                                                                                                                                                                       |                                                                                   |                                                                                   |                                                                                                                                                                                                                                                       |                                                                                   |                                                                                     |                                                                                                                                                                         |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Offset: 0 (0%), Referenced to phase 2:EBTL, Start of Green |                                                                                   |                                                                                                                                                                                                                                                       |                                                                                   |                                                                                   |                                                                                                                                                                                                                                                       |                                                                                   |                                                                                     |                                                                                                                                                                         |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Natural Cycle: 60                                          |                                                                                   |                                                                                                                                                                                                                                                       |                                                                                   |                                                                                   |                                                                                                                                                                                                                                                       |                                                                                   |                                                                                     |                                                                                                                                                                         |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Control Type: Actuated-Coordinated                         |                                                                                   |                                                                                                                                                                                                                                                       |                                                                                   |                                                                                   |                                                                                                                                                                                                                                                       |                                                                                   |                                                                                     |                                                                                                                                                                         |                                                                                     |                                                                                     |                                                                                     |                                                                                     |

|                                                                   |                        |
|-------------------------------------------------------------------|------------------------|
| Maximum v/c Ratio: 0.80                                           |                        |
| Intersection Signal Delay (s/veh): 5.7                            | Intersection LOS: A    |
| Intersection Capacity Utilization 66.4%                           | ICU Level of Service C |
| Analysis Period (min) 15                                          |                        |
| # 95th percentile volume exceeds capacity, queue may be longer.   |                        |
| Queue shown is maximum after two cycles.                          |                        |
| m Volume for 95th percentile queue is metered by upstream signal. |                        |

Splits and Phases: 1: Mohawk Road & E Woodmen Road



Timings  
2: Banning Lewis Parkway & E Woodmen Road

Background Traffic Conditions  
AM Peak Traffic Hour - 2030

|                         |                                                                                    |                                                                                                                                                                      |  |                                                                                    |                                                                                                                                                                      |  |                                                                                       |                                                                                                                                                                          |  |                                                                                      |                                                                                                                                                                          |  |
|-------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Lane Group              | EBL                                                                                                                                                                 | EBT                                                                                                                                                                                                                                                   | EBR                                                                               | WBL                                                                                                                                                                 | WBT                                                                                                                                                                                                                                                   | WBR                                                                               | NBL                                                                                                                                                                     | NBT                                                                                                                                                                                                                                                         | NBR                                                                                 | SBL                                                                                                                                                                     | SBT                                                                                                                                                                                                                                                         | SBR                                                                                 |
| Lane Configurations     |   |    |  |   |    |  |   |    |  |   |    |  |
| Traffic Volume (vph)    | 12                                                                                                                                                                  | 1039                                                                                                                                                                                                                                                  | 136                                                                               | 184                                                                                                                                                                 | 2051                                                                                                                                                                                                                                                  | 2                                                                                 | 241                                                                                                                                                                     | 3                                                                                                                                                                                                                                                           | 149                                                                                 | 5                                                                                                                                                                       | 2                                                                                                                                                                                                                                                           | 5                                                                                   |
| Future Volume (vph)     | 12                                                                                                                                                                  | 1039                                                                                                                                                                                                                                                  | 136                                                                               | 184                                                                                                                                                                 | 2051                                                                                                                                                                                                                                                  | 2                                                                                 | 241                                                                                                                                                                     | 3                                                                                                                                                                                                                                                           | 149                                                                                 | 5                                                                                                                                                                       | 2                                                                                                                                                                                                                                                           | 5                                                                                   |
| Satd. Flow (prot)       | 3433                                                                                                                                                                | 5085                                                                                                                                                                                                                                                  | 1583                                                                              | 3433                                                                                                                                                                | 5085                                                                                                                                                                                                                                                  | 1583                                                                              | 3433                                                                                                                                                                    | 5085                                                                                                                                                                                                                                                        | 1583                                                                                | 3433                                                                                                                                                                    | 5085                                                                                                                                                                                                                                                        | 1583                                                                                |
| Flt Permitted           | 0.950                                                                                                                                                               |                                                                                                                                                                                                                                                       |                                                                                   | 0.950                                                                                                                                                               |                                                                                                                                                                                                                                                       |                                                                                   | 0.950                                                                                                                                                                   |                                                                                                                                                                                                                                                             |                                                                                     | 0.950                                                                                                                                                                   |                                                                                                                                                                                                                                                             |                                                                                     |
| Satd. Flow (perm)       | 3433                                                                                                                                                                | 5085                                                                                                                                                                                                                                                  | 1583                                                                              | 3433                                                                                                                                                                | 5085                                                                                                                                                                                                                                                  | 1583                                                                              | 3433                                                                                                                                                                    | 5085                                                                                                                                                                                                                                                        | 1583                                                                                | 3433                                                                                                                                                                    | 5085                                                                                                                                                                                                                                                        | 1583                                                                                |
| Satd. Flow (RTOR)       |                                                                                                                                                                     |                                                                                                                                                                                                                                                       | 382                                                                               |                                                                                                                                                                     |                                                                                                                                                                                                                                                       | 382                                                                               |                                                                                                                                                                         |                                                                                                                                                                                                                                                             | 382                                                                                 |                                                                                                                                                                         |                                                                                                                                                                                                                                                             | 382                                                                                 |
| Lane Group Flow (vph)   | 13                                                                                                                                                                  | 1129                                                                                                                                                                                                                                                  | 148                                                                               | 200                                                                                                                                                                 | 2229                                                                                                                                                                                                                                                  | 2                                                                                 | 262                                                                                                                                                                     | 3                                                                                                                                                                                                                                                           | 162                                                                                 | 5                                                                                                                                                                       | 2                                                                                                                                                                                                                                                           | 5                                                                                   |
| Turn Type               | Prot                                                                                                                                                                | NA                                                                                                                                                                                                                                                    | Free                                                                              | Prot                                                                                                                                                                | NA                                                                                                                                                                                                                                                    | Free                                                                              | Prot                                                                                                                                                                    | NA                                                                                                                                                                                                                                                          | Free                                                                                | Prot                                                                                                                                                                    | NA                                                                                                                                                                                                                                                          | Free                                                                                |
| Protected Phases        | 5                                                                                                                                                                   | 2                                                                                                                                                                                                                                                     |                                                                                   | 1                                                                                                                                                                   | 6                                                                                                                                                                                                                                                     |                                                                                   | 7                                                                                                                                                                       | 4                                                                                                                                                                                                                                                           |                                                                                     | 3                                                                                                                                                                       | 8                                                                                                                                                                                                                                                           |                                                                                     |
| Permitted Phases        |                                                                                                                                                                     |                                                                                                                                                                                                                                                       | Free                                                                              |                                                                                                                                                                     |                                                                                                                                                                                                                                                       | Free                                                                              |                                                                                                                                                                         |                                                                                                                                                                                                                                                             | Free                                                                                |                                                                                                                                                                         |                                                                                                                                                                                                                                                             | Free                                                                                |
| Detector Phase          | 5                                                                                                                                                                   | 2                                                                                                                                                                                                                                                     |                                                                                   | 1                                                                                                                                                                   | 6                                                                                                                                                                                                                                                     |                                                                                   | 7                                                                                                                                                                       | 4                                                                                                                                                                                                                                                           |                                                                                     | 3                                                                                                                                                                       | 8                                                                                                                                                                                                                                                           |                                                                                     |
| Switch Phase            |                                                                                                                                                                     |                                                                                                                                                                                                                                                       |                                                                                   |                                                                                                                                                                     |                                                                                                                                                                                                                                                       |                                                                                   |                                                                                                                                                                         |                                                                                                                                                                                                                                                             |                                                                                     |                                                                                                                                                                         |                                                                                                                                                                                                                                                             |                                                                                     |
| Minimum Initial (s)     | 5.0                                                                                                                                                                 | 5.0                                                                                                                                                                                                                                                   |                                                                                   | 5.0                                                                                                                                                                 | 5.0                                                                                                                                                                                                                                                   |                                                                                   | 5.0                                                                                                                                                                     | 5.0                                                                                                                                                                                                                                                         |                                                                                     | 5.0                                                                                                                                                                     | 5.0                                                                                                                                                                                                                                                         |                                                                                     |
| Minimum Split (s)       | 11.0                                                                                                                                                                | 11.0                                                                                                                                                                                                                                                  |                                                                                   | 11.0                                                                                                                                                                | 11.0                                                                                                                                                                                                                                                  |                                                                                   | 11.0                                                                                                                                                                    | 11.0                                                                                                                                                                                                                                                        |                                                                                     | 11.0                                                                                                                                                                    | 11.0                                                                                                                                                                                                                                                        |                                                                                     |
| Total Split (s)         | 11.0                                                                                                                                                                | 25.0                                                                                                                                                                                                                                                  |                                                                                   | 13.0                                                                                                                                                                | 27.0                                                                                                                                                                                                                                                  |                                                                                   | 11.0                                                                                                                                                                    | 11.0                                                                                                                                                                                                                                                        |                                                                                     | 11.0                                                                                                                                                                    | 11.0                                                                                                                                                                                                                                                        |                                                                                     |
| Total Split (%)         | 18.3%                                                                                                                                                               | 41.7%                                                                                                                                                                                                                                                 |                                                                                   | 21.7%                                                                                                                                                               | 45.0%                                                                                                                                                                                                                                                 |                                                                                   | 18.3%                                                                                                                                                                   | 18.3%                                                                                                                                                                                                                                                       |                                                                                     | 18.3%                                                                                                                                                                   | 18.3%                                                                                                                                                                                                                                                       |                                                                                     |
| Yellow Time (s)         | 4.0                                                                                                                                                                 | 4.0                                                                                                                                                                                                                                                   |                                                                                   | 4.0                                                                                                                                                                 | 4.0                                                                                                                                                                                                                                                   |                                                                                   | 4.0                                                                                                                                                                     | 4.0                                                                                                                                                                                                                                                         |                                                                                     | 4.0                                                                                                                                                                     | 4.0                                                                                                                                                                                                                                                         |                                                                                     |
| All-Red Time (s)        | 2.0                                                                                                                                                                 | 2.0                                                                                                                                                                                                                                                   |                                                                                   | 2.0                                                                                                                                                                 | 2.0                                                                                                                                                                                                                                                   |                                                                                   | 2.0                                                                                                                                                                     | 2.0                                                                                                                                                                                                                                                         |                                                                                     | 2.0                                                                                                                                                                     | 2.0                                                                                                                                                                                                                                                         |                                                                                     |
| Lost Time Adjust (s)    | 0.0                                                                                                                                                                 | 0.0                                                                                                                                                                                                                                                   |                                                                                   | 0.0                                                                                                                                                                 | 0.0                                                                                                                                                                                                                                                   |                                                                                   | 0.0                                                                                                                                                                     | 0.0                                                                                                                                                                                                                                                         |                                                                                     | 0.0                                                                                                                                                                     | 0.0                                                                                                                                                                                                                                                         |                                                                                     |
| Total Lost Time (s)     | 6.0                                                                                                                                                                 | 6.0                                                                                                                                                                                                                                                   |                                                                                   | 6.0                                                                                                                                                                 | 6.0                                                                                                                                                                                                                                                   |                                                                                   | 6.0                                                                                                                                                                     | 6.0                                                                                                                                                                                                                                                         |                                                                                     | 6.0                                                                                                                                                                     | 6.0                                                                                                                                                                                                                                                         |                                                                                     |
| Lead/Lag                | Lead                                                                                                                                                                | Lag                                                                                                                                                                                                                                                   |                                                                                   | Lead                                                                                                                                                                | Lag                                                                                                                                                                                                                                                   |                                                                                   | Lead                                                                                                                                                                    | Lag                                                                                                                                                                                                                                                         |                                                                                     | Lead                                                                                                                                                                    | Lag                                                                                                                                                                                                                                                         |                                                                                     |
| Lead-Lag Optimize?      | Yes                                                                                                                                                                 | Yes                                                                                                                                                                                                                                                   |                                                                                   | Yes                                                                                                                                                                 | Yes                                                                                                                                                                                                                                                   |                                                                                   | Yes                                                                                                                                                                     | Yes                                                                                                                                                                                                                                                         |                                                                                     | Yes                                                                                                                                                                     | Yes                                                                                                                                                                                                                                                         |                                                                                     |
| Recall Mode             | None                                                                                                                                                                | C-Max                                                                                                                                                                                                                                                 |                                                                                   | None                                                                                                                                                                | C-Max                                                                                                                                                                                                                                                 |                                                                                   | None                                                                                                                                                                    | None                                                                                                                                                                                                                                                        |                                                                                     | None                                                                                                                                                                    | None                                                                                                                                                                                                                                                        |                                                                                     |
| Act Effect Green (s)    | 5.5                                                                                                                                                                 | 26.4                                                                                                                                                                                                                                                  | 60.0                                                                              | 7.9                                                                                                                                                                 | 38.2                                                                                                                                                                                                                                                  | 60.0                                                                              | 5.4                                                                                                                                                                     | 5.4                                                                                                                                                                                                                                                         | 60.0                                                                                | 5.0                                                                                                                                                                     | 5.0                                                                                                                                                                                                                                                         | 60.0                                                                                |
| Actuated g/C Ratio      | 0.09                                                                                                                                                                | 0.44                                                                                                                                                                                                                                                  | 1.00                                                                              | 0.13                                                                                                                                                                | 0.64                                                                                                                                                                                                                                                  | 1.00                                                                              | 0.09                                                                                                                                                                    | 0.09                                                                                                                                                                                                                                                        | 1.00                                                                                | 0.08                                                                                                                                                                    | 0.08                                                                                                                                                                                                                                                        | 1.00                                                                                |
| v/c Ratio               | 0.04                                                                                                                                                                | 0.50                                                                                                                                                                                                                                                  | 0.09                                                                              | 0.44                                                                                                                                                                | 0.69                                                                                                                                                                                                                                                  | 0.00                                                                              | 0.85                                                                                                                                                                    | 0.01                                                                                                                                                                                                                                                        | 0.10                                                                                | 0.02                                                                                                                                                                    | 0.00                                                                                                                                                                                                                                                        | 0.00                                                                                |
| Control Delay (s/veh)   | 27.8                                                                                                                                                                | 12.2                                                                                                                                                                                                                                                  | 0.1                                                                               | 21.8                                                                                                                                                                | 15.8                                                                                                                                                                                                                                                  | 0.0                                                                               | 54.3                                                                                                                                                                    | 25.0                                                                                                                                                                                                                                                        | 0.1                                                                                 | 25.4                                                                                                                                                                    | 25.5                                                                                                                                                                                                                                                        | 0.0                                                                                 |
| 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                                                                                 |
| Total Delay (s/veh)     | 27.8                                                                                                                                                                | 12.2                                                                                                                                                                                                                                                  | 0.1                                                                               | 21.8                                                                                                                                                                | 15.8                                                                                                                                                                                                                                                  | 0.0                                                                               | 54.3                                                                                                                                                                    | 25.0                                                                                                                                                                                                                                                        | 0.1                                                                                 | 25.4                                                                                                                                                                    | 25.5                                                                                                                                                                                                                                                        | 0.0                                                                                 |
| LOS                     | C                                                                                                                                                                   | B                                                                                                                                                                                                                                                     | A                                                                                 | C                                                                                                                                                                   | B                                                                                                                                                                                                                                                     | A                                                                                 | D                                                                                                                                                                       | C                                                                                                                                                                                                                                                           | A                                                                                   | C                                                                                                                                                                       | C                                                                                                                                                                                                                                                           | A                                                                                   |
| Approach Delay (s/veh)  |                                                                                                                                                                     | 11.0                                                                                                                                                                                                                                                  |                                                                                   |                                                                                                                                                                     | 16.2                                                                                                                                                                                                                                                  |                                                                                   |                                                                                                                                                                         | 33.6                                                                                                                                                                                                                                                        |                                                                                     |                                                                                                                                                                         | 14.8                                                                                                                                                                                                                                                        |                                                                                     |
| Approach LOS            |                                                                                                                                                                     | B                                                                                                                                                                                                                                                     |                                                                                   |                                                                                                                                                                     | B                                                                                                                                                                                                                                                     |                                                                                   |                                                                                                                                                                         | C                                                                                                                                                                                                                                                           |                                                                                     |                                                                                                                                                                         | B                                                                                                                                                                                                                                                           |                                                                                     |
| Queue Length 50th (ft)  | 3                                                                                                                                                                   | 102                                                                                                                                                                                                                                                   | 0                                                                                 | 39                                                                                                                                                                  | 212                                                                                                                                                                                                                                                   | 0                                                                                 | 49                                                                                                                                                                      | 0                                                                                                                                                                                                                                                           | 0                                                                                   | 1                                                                                                                                                                       | 0                                                                                                                                                                                                                                                           | 0                                                                                   |
| Queue Length 95th (ft)  | m7                                                                                                                                                                  | 159                                                                                                                                                                                                                                                   | 0                                                                                 | m44                                                                                                                                                                 | m#431                                                                                                                                                                                                                                                 | m0                                                                                | #111                                                                                                                                                                    | 2                                                                                                                                                                                                                                                           | 0                                                                                   | 5                                                                                                                                                                       | 2                                                                                                                                                                                                                                                           | 0                                                                                   |
| Internal Link Dist (ft) |                                                                                                                                                                     | 712                                                                                                                                                                                                                                                   |                                                                                   |                                                                                                                                                                     | 722                                                                                                                                                                                                                                                   |                                                                                   |                                                                                                                                                                         | 667                                                                                                                                                                                                                                                         |                                                                                     |                                                                                                                                                                         | 695                                                                                                                                                                                                                                                         |                                                                                     |
| Turn Bay Length (ft)    | 285                                                                                                                                                                 |                                                                                                                                                                                                                                                       |                                                                                   | 285                                                                                                                                                                 |                                                                                                                                                                                                                                                       | 225                                                                               | 185                                                                                                                                                                     |                                                                                                                                                                                                                                                             | 185                                                                                 | 185                                                                                                                                                                     |                                                                                                                                                                                                                                                             | 185                                                                                 |
| Base Capacity (vph)     | 315                                                                                                                                                                 | 2240                                                                                                                                                                                                                                                  | 1583                                                                              | 461                                                                                                                                                                 | 3235                                                                                                                                                                                                                                                  | 1583                                                                              | 310                                                                                                                                                                     | 459                                                                                                                                                                                                                                                         | 1583                                                                                | 286                                                                                                                                                                     | 423                                                                                                                                                                                                                                                         | 1583                                                                                |
| Starvation Cap Reductn  | 0                                                                                                                                                                   | 0                                                                                                                                                                                                                                                     | 0                                                                                 | 0                                                                                                                                                                   | 0                                                                                                                                                                                                                                                     | 0                                                                                 | 0                                                                                                                                                                       | 0                                                                                                                                                                                                                                                           | 0                                                                                   | 0                                                                                                                                                                       | 0                                                                                                                                                                                                                                                           | 0                                                                                   |
| Spillback Cap Reductn   | 0                                                                                                                                                                   | 0                                                                                                                                                                                                                                                     | 0                                                                                 | 0                                                                                                                                                                   | 0                                                                                                                                                                                                                                                     | 0                                                                                 | 0                                                                                                                                                                       | 0                                                                                                                                                                                                                                                           | 0                                                                                   | 0                                                                                                                                                                       | 0                                                                                                                                                                                                                                                           | 0                                                                                   |
| Storage Cap Reductn     | 0                                                                                                                                                                   | 0                                                                                                                                                                                                                                                     | 0                                                                                 | 0                                                                                                                                                                   | 0                                                                                                                                                                                                                                                     | 0                                                                                 | 0                                                                                                                                                                       | 0                                                                                                                                                                                                                                                           | 0                                                                                   | 0                                                                                                                                                                       | 0                                                                                                                                                                                                                                                           | 0                                                                                   |
| Reduced v/c Ratio       | 0.04                                                                                                                                                                | 0.50                                                                                                                                                                                                                                                  | 0.09                                                                              | 0.43                                                                                                                                                                | 0.69                                                                                                                                                                                                                                                  | 0.00                                                                              | 0.85                                                                                                                                                                    | 0.01                                                                                                                                                                                                                                                        | 0.10                                                                                | 0.02                                                                                                                                                                    | 0.00                                                                                                                                                                                                                                                        | 0.00                                                                                |

Intersection Summary

Cycle Length: 60

Actuated Cycle Length: 60

Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Green

Natural Cycle: 75

Control Type: Actuated-Coordinated

Timings  
 2: Banning Lewis Parkway & E Woodmen Road

Background Traffic Conditions  
 AM Peak Traffic Hour - 2030

Maximum v/c Ratio: 0.85

Intersection Signal Delay (s/veh): 16.4

Intersection LOS: B

Intersection Capacity Utilization 72.3%

ICU Level of Service C

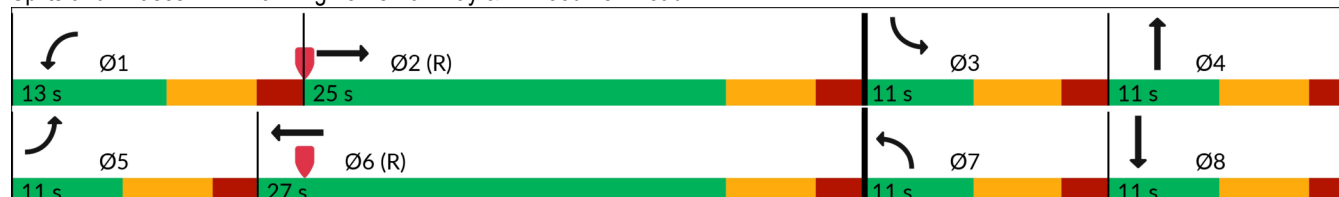
Analysis Period (min) 15

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

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 2: Banning Lewis Parkway & E Woodmen Road



# Timings

## 3: Golden Sage Road & E Woodmen Road

# Background Traffic Conditions

## AM Peak Traffic Hour - 2030

|                         |  |  |  |  |  |  |  |  |  |  |  |  |
|-------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Lane Group              | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | WBR                                                                               | NBL                                                                                 | NBT                                                                                 | NBR                                                                                 | SBL                                                                                 | SBT                                                                                 | SBR                                                                                 |
| Lane Configurations     |  |  |  |  |  |  |  |  |  |  |  |  |
| Traffic Volume (vph)    | 132                                                                               | 1001                                                                              | 55                                                                                | 15                                                                                | 1759                                                                              | 5                                                                                 | 130                                                                                 | 2                                                                                   | 10                                                                                  | 15                                                                                  | 9                                                                                   | 340                                                                                 |
| Future Volume (vph)     | 132                                                                               | 1001                                                                              | 55                                                                                | 15                                                                                | 1759                                                                              | 5                                                                                 | 130                                                                                 | 2                                                                                   | 10                                                                                  | 15                                                                                  | 9                                                                                   | 340                                                                                 |
| Satd. Flow (prot)       | 1770                                                                              | 3539                                                                              | 1583                                                                              | 1770                                                                              | 5085                                                                              | 1583                                                                              | 1770                                                                                | 1863                                                                                | 1583                                                                                | 1770                                                                                | 1591                                                                                | 0                                                                                   |
| Flt Permitted           | 0.148                                                                             |                                                                                   |                                                                                   | 0.193                                                                             |                                                                                   |                                                                                   | 0.284                                                                               |                                                                                     |                                                                                     | 0.757                                                                               |                                                                                     |                                                                                     |
| Satd. Flow (perm)       | 276                                                                               | 3539                                                                              | 1583                                                                              | 360                                                                               | 5085                                                                              | 1583                                                                              | 529                                                                                 | 1863                                                                                | 1583                                                                                | 1410                                                                                | 1591                                                                                | 0                                                                                   |
| Satd. Flow (RTOR)       |                                                                                   |                                                                                   | 145                                                                               |                                                                                   |                                                                                   | 145                                                                               |                                                                                     |                                                                                     | 255                                                                                 |                                                                                     | 196                                                                                 |                                                                                     |
| Lane Group Flow (vph)   | 143                                                                               | 1088                                                                              | 60                                                                                | 16                                                                                | 1912                                                                              | 5                                                                                 | 141                                                                                 | 2                                                                                   | 11                                                                                  | 16                                                                                  | 380                                                                                 | 0                                                                                   |
| Turn Type               | pm+pt                                                                             | NA                                                                                | Perm                                                                              | pm+pt                                                                             | NA                                                                                | Perm                                                                              | Perm                                                                                | NA                                                                                  | Free                                                                                | Perm                                                                                | NA                                                                                  |                                                                                     |
| Protected Phases        | 5                                                                                 | 2                                                                                 |                                                                                   | 1                                                                                 | 6                                                                                 |                                                                                   |                                                                                     | 4                                                                                   |                                                                                     |                                                                                     | 8                                                                                   |                                                                                     |
| Permitted Phases        | 2                                                                                 |                                                                                   | 2                                                                                 | 6                                                                                 |                                                                                   | 6                                                                                 | 4                                                                                   |                                                                                     | Free                                                                                | 8                                                                                   |                                                                                     |                                                                                     |
| Detector Phase          | 5                                                                                 | 2                                                                                 | 2                                                                                 | 1                                                                                 | 6                                                                                 | 6                                                                                 | 4                                                                                   | 4                                                                                   |                                                                                     | 8                                                                                   | 8                                                                                   |                                                                                     |
| Switch Phase            |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Minimum Initial (s)     | 5.0                                                                               | 5.0                                                                               | 5.0                                                                               | 5.0                                                                               | 5.0                                                                               | 5.0                                                                               | 5.0                                                                                 | 5.0                                                                                 |                                                                                     | 5.0                                                                                 | 5.0                                                                                 |                                                                                     |
| Minimum Split (s)       | 11.0                                                                              | 11.0                                                                              | 11.0                                                                              | 11.0                                                                              | 11.0                                                                              | 11.0                                                                              | 10.0                                                                                | 10.0                                                                                |                                                                                     | 10.0                                                                                | 10.0                                                                                |                                                                                     |
| Total Split (s)         | 11.0                                                                              | 29.0                                                                              | 29.0                                                                              | 11.0                                                                              | 29.0                                                                              | 29.0                                                                              | 20.0                                                                                | 20.0                                                                                |                                                                                     | 20.0                                                                                | 20.0                                                                                |                                                                                     |
| Total Split (%)         | 18.3%                                                                             | 48.3%                                                                             | 48.3%                                                                             | 18.3%                                                                             | 48.3%                                                                             | 48.3%                                                                             | 33.3%                                                                               | 33.3%                                                                               |                                                                                     | 33.3%                                                                               | 33.3%                                                                               |                                                                                     |
| Yellow Time (s)         | 4.0                                                                               | 4.0                                                                               | 4.0                                                                               | 4.0                                                                               | 4.0                                                                               | 4.0                                                                               | 3.0                                                                                 | 3.0                                                                                 |                                                                                     | 3.0                                                                                 | 3.0                                                                                 |                                                                                     |
| All-Red Time (s)        | 2.0                                                                               | 2.0                                                                               | 2.0                                                                               | 2.0                                                                               | 2.0                                                                               | 2.0                                                                               | 2.0                                                                                 | 2.0                                                                                 |                                                                                     | 2.0                                                                                 | 2.0                                                                                 |                                                                                     |
| Lost Time Adjust (s)    | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               | 0.0                                                                                 | 0.0                                                                                 |                                                                                     | 0.0                                                                                 | 0.0                                                                                 |                                                                                     |
| Total Lost Time (s)     | 6.0                                                                               | 6.0                                                                               | 6.0                                                                               | 6.0                                                                               | 6.0                                                                               | 6.0                                                                               | 5.0                                                                                 | 5.0                                                                                 |                                                                                     | 5.0                                                                                 | 5.0                                                                                 |                                                                                     |
| Lead/Lag                | Lead                                                                              | Lag                                                                               | Lag                                                                               | Lead                                                                              | Lag                                                                               | Lag                                                                               |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Lead-Lag Optimize?      | Yes                                                                               | Yes                                                                               | Yes                                                                               | Yes                                                                               | Yes                                                                               | Yes                                                                               |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Recall Mode             | None                                                                              | C-Max                                                                             | C-Max                                                                             | None                                                                              | C-Max                                                                             | C-Max                                                                             | Max                                                                                 | Max                                                                                 |                                                                                     | Max                                                                                 | Max                                                                                 |                                                                                     |
| Act Effect Green (s)    | 32.8                                                                              | 31.8                                                                              | 31.8                                                                              | 29.2                                                                              | 25.2                                                                              | 25.2                                                                              | 15.0                                                                                | 15.0                                                                                | 60.0                                                                                | 15.0                                                                                | 15.0                                                                                |                                                                                     |
| Actuated g/C Ratio      | 0.55                                                                              | 0.53                                                                              | 0.53                                                                              | 0.49                                                                              | 0.42                                                                              | 0.42                                                                              | 0.25                                                                                | 0.25                                                                                | 1.00                                                                                | 0.25                                                                                | 0.25                                                                                |                                                                                     |
| v/c Ratio               | 0.52                                                                              | 0.58                                                                              | 0.07                                                                              | 0.05                                                                              | 0.90                                                                              | 0.01                                                                              | 1.07                                                                                | 0.00                                                                                | 0.01                                                                                | 0.05                                                                                | 0.70                                                                                |                                                                                     |
| Control Delay (s/veh)   | 20.6                                                                              | 8.1                                                                               | 0.5                                                                               | 6.5                                                                               | 25.3                                                                              | 0.0                                                                               | 128.0                                                                               | 17.0                                                                                | 0.0                                                                                 | 17.6                                                                                | 18.1                                                                                |                                                                                     |
| Queue Delay             | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               | 0.0                                                                                 | 0.0                                                                                 | 0.0                                                                                 | 0.0                                                                                 | 0.0                                                                                 |                                                                                     |
| Total Delay (s/veh)     | 20.6                                                                              | 8.1                                                                               | 0.5                                                                               | 6.5                                                                               | 25.3                                                                              | 0.0                                                                               | 128.0                                                                               | 17.0                                                                                | 0.0                                                                                 | 17.6                                                                                | 18.1                                                                                |                                                                                     |
| LOS                     | C                                                                                 | A                                                                                 | A                                                                                 | A                                                                                 | C                                                                                 | A                                                                                 | F                                                                                   | B                                                                                   | A                                                                                   | B                                                                                   | B                                                                                   |                                                                                     |
| Approach Delay (s/veh)  |                                                                                   | 9.1                                                                               |                                                                                   |                                                                                   | 25.1                                                                              |                                                                                   |                                                                                     | 117.4                                                                               |                                                                                     |                                                                                     | 18.1                                                                                |                                                                                     |
| Approach LOS            |                                                                                   | A                                                                                 |                                                                                   |                                                                                   | C                                                                                 |                                                                                   |                                                                                     | F                                                                                   |                                                                                     |                                                                                     | B                                                                                   |                                                                                     |
| Queue Length 50th (ft)  | 18                                                                                | 34                                                                                | 0                                                                                 | 2                                                                                 | 241                                                                               | 0                                                                                 | ~58                                                                                 | 1                                                                                   | 0                                                                                   | 4                                                                                   | 56                                                                                  |                                                                                     |
| Queue Length 95th (ft)  | 67                                                                                | 113                                                                               | 0                                                                                 | 9                                                                                 | #355                                                                              | 0                                                                                 | #153                                                                                | 5                                                                                   | 0                                                                                   | 17                                                                                  | #167                                                                                |                                                                                     |
| Internal Link Dist (ft) |                                                                                   | 600                                                                               |                                                                                   |                                                                                   | 542                                                                               |                                                                                   |                                                                                     | 565                                                                                 |                                                                                     |                                                                                     | 379                                                                                 |                                                                                     |
| Turn Bay Length (ft)    | 530                                                                               |                                                                                   | 380                                                                               | 330                                                                               |                                                                                   | 360                                                                               | 125                                                                                 |                                                                                     | 195                                                                                 | 110                                                                                 |                                                                                     |                                                                                     |
| Base Capacity (vph)     | 275                                                                               | 1875                                                                              | 906                                                                               | 292                                                                               | 2135                                                                              | 749                                                                               | 132                                                                                 | 465                                                                                 | 1583                                                                                | 352                                                                                 | 544                                                                                 |                                                                                     |
| Starvation Cap Reductn  | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                   | 0                                                                                   | 0                                                                                   | 0                                                                                   | 0                                                                                   |                                                                                     |
| Spillback Cap Reductn   | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                   | 0                                                                                   | 0                                                                                   | 0                                                                                   | 0                                                                                   |                                                                                     |
| Storage Cap Reductn     | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                   | 0                                                                                   | 0                                                                                   | 0                                                                                   | 0                                                                                   |                                                                                     |
| Reduced v/c Ratio       | 0.52                                                                              | 0.58                                                                              | 0.07                                                                              | 0.05                                                                              | 0.90                                                                              | 0.01                                                                              | 1.07                                                                                | 0.00                                                                                | 0.01                                                                                | 0.05                                                                                | 0.70                                                                                |                                                                                     |

### Intersection Summary

Cycle Length: 60

Actuated Cycle Length: 60

Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green

Natural Cycle: 50

Control Type: Actuated-Coordinated

## Timings

### 3: Golden Sage Road & E Woodmen Road

## Background Traffic Conditions

### AM Peak Traffic Hour - 2030

Maximum v/c Ratio: 1.07

Intersection Signal Delay (s/veh): 22.6

Intersection LOS: C

Intersection Capacity Utilization 88.3%

ICU Level of Service E

Analysis Period (min) 15

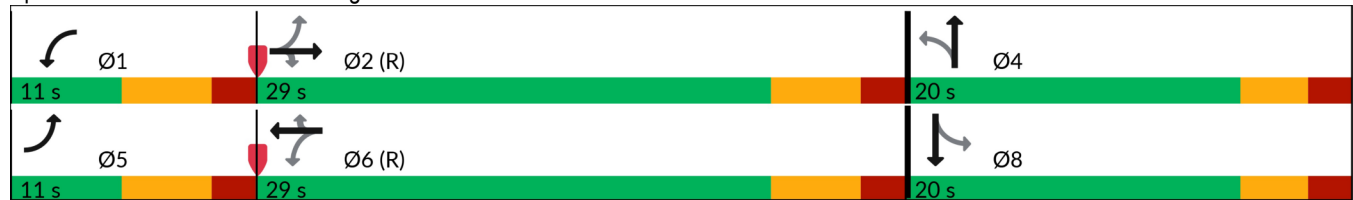
~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

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

Queue shown is maximum after two cycles.

### Splits and Phases: 3: Golden Sage Road & E Woodmen Road



HCM Unsignalized Intersection Capacity Analysis  
4: Golden Sage Road & Woodmen Frontage Road

Background Traffic Conditions  
AM Peak Traffic Hour - 2030

|                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
|-----------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|
|                                   |  |  |  |  |  |  |
| Movement                          | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | NBL                                                                               | NBR                                                                               |
| Lane Configurations               |  |                                                                                   |                                                                                   |  |  |                                                                                   |
| Traffic Volume (veh/h)            | 5                                                                                 | 8                                                                                 | 5                                                                                 | 357                                                                               | 132                                                                               | 5                                                                                 |
| Future Volume (Veh/h)             | 5                                                                                 | 8                                                                                 | 5                                                                                 | 357                                                                               | 132                                                                               | 5                                                                                 |
| Sign Control                      | Stop                                                                              |                                                                                   |                                                                                   | Stop                                                                              | Free                                                                              |                                                                                   |
| Grade                             | 0%                                                                                |                                                                                   |                                                                                   | 0%                                                                                | 0%                                                                                |                                                                                   |
| Peak Hour Factor                  | 0.92                                                                              | 0.92                                                                              | 0.92                                                                              | 0.92                                                                              | 0.92                                                                              | 0.92                                                                              |
| Hourly flow rate (vph)            | 5                                                                                 | 9                                                                                 | 5                                                                                 | 388                                                                               | 143                                                                               | 5                                                                                 |
| Pedestrians                       |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Lane Width (ft)                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Walking Speed (ft/s)              |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Percent Blockage                  |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Right turn flare (veh)            |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Median type                       |                                                                                   |                                                                                   |                                                                                   |                                                                                   | None                                                                              |                                                                                   |
| Median storage veh                |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Upstream signal (ft)              |                                                                                   |                                                                                   |                                                                                   |                                                                                   | 459                                                                               |                                                                                   |
| pX, platoon unblocked             |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| vC, conflicting volume            | 291                                                                               | 0                                                                                 | 300                                                                               | 289                                                                               | 0                                                                                 |                                                                                   |
| vC1, stage 1 conf vol             |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| vC2, stage 2 conf vol             |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| vCu, unblocked vol                | 291                                                                               | 0                                                                                 | 300                                                                               | 289                                                                               | 0                                                                                 |                                                                                   |
| tC, single (s)                    | 6.5                                                                               | 6.2                                                                               | 7.1                                                                               | 6.5                                                                               | 4.1                                                                               |                                                                                   |
| tC, 2 stage (s)                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| tF (s)                            | 4.0                                                                               | 3.3                                                                               | 3.5                                                                               | 4.0                                                                               | 2.2                                                                               |                                                                                   |
| p0 queue free %                   | 99                                                                                | 99                                                                                | 99                                                                                | 32                                                                                | 91                                                                                |                                                                                   |
| cM capacity (veh/h)               | 565                                                                               | 1085                                                                              | 599                                                                               | 567                                                                               | 1623                                                                              |                                                                                   |
| Direction, Lane #                 | EB 1                                                                              | WB 1                                                                              | NB 1                                                                              |                                                                                   |                                                                                   |                                                                                   |
| Volume Total                      | 14                                                                                | 393                                                                               | 148                                                                               |                                                                                   |                                                                                   |                                                                                   |
| Volume Left                       | 0                                                                                 | 5                                                                                 | 143                                                                               |                                                                                   |                                                                                   |                                                                                   |
| Volume Right                      | 9                                                                                 | 0                                                                                 | 5                                                                                 |                                                                                   |                                                                                   |                                                                                   |
| cSH                               | 817                                                                               | 567                                                                               | 1623                                                                              |                                                                                   |                                                                                   |                                                                                   |
| Volume to Capacity                | 0.02                                                                              | 0.69                                                                              | 0.09                                                                              |                                                                                   |                                                                                   |                                                                                   |
| Queue Length 95th (ft)            | 1                                                                                 | 136                                                                               | 7                                                                                 |                                                                                   |                                                                                   |                                                                                   |
| Control Delay (s/veh)             | 9.5                                                                               | 24.4                                                                              | 7.2                                                                               |                                                                                   |                                                                                   |                                                                                   |
| Lane LOS                          | A                                                                                 | C                                                                                 | A                                                                                 |                                                                                   |                                                                                   |                                                                                   |
| Approach Delay (s/veh)            | 9.5                                                                               | 24.4                                                                              | 7.2                                                                               |                                                                                   |                                                                                   |                                                                                   |
| Approach LOS                      | A                                                                                 | C                                                                                 |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Intersection Summary              |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Average Delay                     |                                                                                   |                                                                                   | 19.5                                                                              |                                                                                   |                                                                                   |                                                                                   |
| Intersection Capacity Utilization |                                                                                   |                                                                                   | 37.1%                                                                             | ICU Level of Service                                                              | A                                                                                 |                                                                                   |
| Analysis Period (min)             |                                                                                   |                                                                                   | 15                                                                                |                                                                                   |                                                                                   |                                                                                   |

| Intersection             |        |                                                                                   |        |       |                                                                                   |       |        |                                                                                   |      |       |                                                                                     |      |
|--------------------------|--------|-----------------------------------------------------------------------------------|--------|-------|-----------------------------------------------------------------------------------|-------|--------|-----------------------------------------------------------------------------------|------|-------|-------------------------------------------------------------------------------------|------|
| Int Delay, s/veh         | 3      |                                                                                   |        |       |                                                                                   |       |        |                                                                                   |      |       |                                                                                     |      |
| Movement                 | EBL    | EBT                                                                               | EBR    | WBL   | WBT                                                                               | WBR   | NBL    | NBT                                                                               | NBR  | SBL   | SBT                                                                                 | SBR  |
| Lane Configurations      |        |  |        |       |  |       |        |  |      |       |  |      |
| Traffic Vol, veh/h       | 1      | 6                                                                                 | 11     | 19    | 3                                                                                 | 5     | 8      | 34                                                                                | 33   | 2     | 38                                                                                  | 5    |
| Future Vol, veh/h        | 1      | 6                                                                                 | 11     | 19    | 3                                                                                 | 5     | 8      | 34                                                                                | 33   | 2     | 38                                                                                  | 5    |
| Conflicting Peds, #/hr   | 0      | 0                                                                                 | 0      | 0     | 0                                                                                 | 0     | 0      | 0                                                                                 | 0    | 0     | 0                                                                                   | 0    |
| Sign Control             | Stop   | Stop                                                                              | Stop   | Stop  | Stop                                                                              | Stop  | Free   | Free                                                                              | Free | Free  | Free                                                                                | Free |
| RT Channelized           | -      | -                                                                                 | None   | -     | -                                                                                 | None  | -      | -                                                                                 | None | -     | -                                                                                   | 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                | 1      | 7                                                                                 | 12     | 21    | 3                                                                                 | 5     | 9      | 37                                                                                | 36   | 2     | 41                                                                                  | 5    |
|                          |        |                                                                                   |        |       |                                                                                   |       |        |                                                                                   |      |       |                                                                                     |      |
| Major/Minor              | Minor2 |                                                                                   | Minor1 |       | Major1                                                                            |       | Major2 |                                                                                   |      |       |                                                                                     |      |
| Conflicting Flow All     | 104    | 139                                                                               | 44     | 121   | 123                                                                               | 55    | 47     | 0                                                                                 | 0    | 73    | 0                                                                                   | 0    |
| Stage 1                  | 48     | 48                                                                                | -      | 72    | 72                                                                                | -     | -      | -                                                                                 | -    | -     | -                                                                                   | -    |
| Stage 2                  | 56     | 90                                                                                | -      | 49    | 51                                                                                | -     | -      | -                                                                                 | -    | -     | -                                                                                   | -    |
| Critical Hdwy            | 7.12   | 6.52                                                                              | 6.22   | 7.12  | 6.52                                                                              | 6.22  | 4.12   | -                                                                                 | -    | 4.12  | -                                                                                   | -    |
| Critical Hdwy Stg 1      | 6.12   | 5.52                                                                              | -      | 6.12  | 5.52                                                                              | -     | -      | -                                                                                 | -    | -     | -                                                                                   | -    |
| Critical Hdwy Stg 2      | 6.12   | 5.52                                                                              | -      | 6.12  | 5.52                                                                              | -     | -      | -                                                                                 | -    | -     | -                                                                                   | -    |
| Follow-up Hdwy           | 3.518  | 4.018                                                                             | 3.318  | 3.518 | 4.018                                                                             | 3.318 | 2.218  | -                                                                                 | -    | 2.218 | -                                                                                   | -    |
| Pot Cap-1 Maneuver       | 876    | 752                                                                               | 1026   | 854   | 767                                                                               | 1012  | 1561   | -                                                                                 | -    | 1527  | -                                                                                   | -    |
| Stage 1                  | 965    | 855                                                                               | -      | 937   | 835                                                                               | -     | -      | -                                                                                 | -    | -     | -                                                                                   | -    |
| Stage 2                  | 956    | 820                                                                               | -      | 964   | 852                                                                               | -     | -      | -                                                                                 | -    | -     | -                                                                                   | -    |
| Platoon blocked, %       |        |                                                                                   |        |       |                                                                                   |       |        | -                                                                                 | -    |       | -                                                                                   | -    |
| Mov Cap-1 Maneuver       | 861    | 747                                                                               | 1026   | 830   | 761                                                                               | 1012  | 1561   | -                                                                                 | -    | 1527  | -                                                                                   | -    |
| Mov Cap-2 Maneuver       | 861    | 747                                                                               | -      | 830   | 761                                                                               | -     | -      | -                                                                                 | -    | -     | -                                                                                   | -    |
| Stage 1                  | 964    | 853                                                                               | -      | 932   | 830                                                                               | -     | -      | -                                                                                 | -    | -     | -                                                                                   | -    |
| Stage 2                  | 942    | 815                                                                               | -      | 944   | 851                                                                               | -     | -      | -                                                                                 | -    | -     | -                                                                                   | -    |
|                          |        |                                                                                   |        |       |                                                                                   |       |        |                                                                                   |      |       |                                                                                     |      |
|                          |        |                                                                                   |        |       |                                                                                   |       |        |                                                                                   |      |       |                                                                                     |      |
| Approach                 | EB     |                                                                                   | WB     |       | NB                                                                                |       | SB     |                                                                                   |      |       |                                                                                     |      |
| HCM Ctrl Dly, s/v        | 9.07   |                                                                                   | 9.39   |       | 0.78                                                                              |       | 0.33   |                                                                                   |      |       |                                                                                     |      |
| HCM LOS                  | A      |                                                                                   | A      |       |                                                                                   |       |        |                                                                                   |      |       |                                                                                     |      |
|                          |        |                                                                                   |        |       |                                                                                   |       |        |                                                                                   |      |       |                                                                                     |      |
| Minor Lane/Major Mvmt    | NBL    | NBT                                                                               | NBR    | EBLn1 | WBLn1                                                                             | SBL   | SBT    | SBR                                                                               |      |       |                                                                                     |      |
| Capacity (veh/h)         | 175    | -                                                                                 | -      | 904   | 850                                                                               | 78    | -      | -                                                                                 |      |       |                                                                                     |      |
| HCM Lane V/C Ratio       | 0.006  | -                                                                                 | -      | 0.022 | 0.035                                                                             | 0.001 | -      | -                                                                                 |      |       |                                                                                     |      |
| HCM Ctrl Dly (s/v)       | 7.3    | 0                                                                                 | -      | 9.1   | 9.4                                                                               | 7.4   | 0      | -                                                                                 |      |       |                                                                                     |      |
| HCM Lane LOS             | A      | A                                                                                 | -      | A     | A                                                                                 | A     | A      | -                                                                                 |      |       |                                                                                     |      |
| HCM 95th %tile Q(veh)    | 0      | -                                                                                 | -      | 0.1   | 0.1                                                                               | 0     | -      | -                                                                                 |      |       |                                                                                     |      |

# Timings

1: Mohawk Road & E Woodmen Road

Background Traffic Conditions

PM Peak Traffic Hour - 2030

|                                                            |  |                                                                                                                                                                      |  |  |                                                                                                                                                                      |  |  |                                                                                      |  |  |  |  |
|------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Lane Group                                                 | EBL                                                                               | EBT                                                                                                                                                                                                                                                   | EBR                                                                               | WBL                                                                               | WBT                                                                                                                                                                                                                                                   | WBR                                                                               | NBL                                                                                 | NBT                                                                                                                                                                     | NBR                                                                                 | SBL                                                                                 | SBT                                                                                 | SBR                                                                                 |
| Lane Configurations                                        |  |    |  |  |    |  |                                                                                     |   |                                                                                     |  |  |                                                                                     |
| Traffic Volume (vph)                                       | 29                                                                                | 1850                                                                                                                                                                                                                                                  | 167                                                                               | 22                                                                                | 1552                                                                                                                                                                                                                                                  | 19                                                                                | 25                                                                                  | 5                                                                                                                                                                       | 7                                                                                   | 12                                                                                  | 1                                                                                   | 35                                                                                  |
| Future Volume (vph)                                        | 29                                                                                | 1850                                                                                                                                                                                                                                                  | 167                                                                               | 22                                                                                | 1552                                                                                                                                                                                                                                                  | 19                                                                                | 25                                                                                  | 5                                                                                                                                                                       | 7                                                                                   | 12                                                                                  | 1                                                                                   | 35                                                                                  |
| Satd. Flow (prot)                                          | 1770                                                                              | 5085                                                                                                                                                                                                                                                  | 1583                                                                              | 1770                                                                              | 5085                                                                                                                                                                                                                                                  | 1583                                                                              | 0                                                                                   | 1753                                                                                                                                                                    | 0                                                                                   | 1770                                                                                | 1591                                                                                | 0                                                                                   |
| Flt Permitted                                              | 0.122                                                                             |                                                                                                                                                                                                                                                       |                                                                                   | 0.082                                                                             |                                                                                                                                                                                                                                                       |                                                                                   |                                                                                     | 0.799                                                                                                                                                                   |                                                                                     | 0.802                                                                               |                                                                                     |                                                                                     |
| Satd. Flow (perm)                                          | 227                                                                               | 5085                                                                                                                                                                                                                                                  | 1583                                                                              | 153                                                                               | 5085                                                                                                                                                                                                                                                  | 1583                                                                              | 0                                                                                   | 1448                                                                                                                                                                    | 0                                                                                   | 1494                                                                                | 1591                                                                                | 0                                                                                   |
| Satd. Flow (RTOR)                                          |                                                                                   |                                                                                                                                                                                                                                                       | 182                                                                               |                                                                                   |                                                                                                                                                                                                                                                       | 21                                                                                |                                                                                     | 8                                                                                                                                                                       |                                                                                     |                                                                                     | 38                                                                                  |                                                                                     |
| Lane Group Flow (vph)                                      | 32                                                                                | 2011                                                                                                                                                                                                                                                  | 182                                                                               | 24                                                                                | 1687                                                                                                                                                                                                                                                  | 21                                                                                | 0                                                                                   | 40                                                                                                                                                                      | 0                                                                                   | 13                                                                                  | 39                                                                                  | 0                                                                                   |
| Turn Type                                                  | Perm                                                                              | NA                                                                                                                                                                                                                                                    | Perm                                                                              | Perm                                                                              | NA                                                                                                                                                                                                                                                    | Perm                                                                              | Perm                                                                                | NA                                                                                                                                                                      |                                                                                     | Perm                                                                                | NA                                                                                  |                                                                                     |
| Protected Phases                                           |                                                                                   | 2                                                                                                                                                                                                                                                     |                                                                                   |                                                                                   | 6                                                                                                                                                                                                                                                     |                                                                                   |                                                                                     | 8                                                                                                                                                                       |                                                                                     |                                                                                     | 4                                                                                   |                                                                                     |
| Permitted Phases                                           | 2                                                                                 |                                                                                                                                                                                                                                                       | 2                                                                                 | 6                                                                                 |                                                                                                                                                                                                                                                       | 6                                                                                 | 8                                                                                   |                                                                                                                                                                         |                                                                                     | 4                                                                                   |                                                                                     |                                                                                     |
| Detector Phase                                             | 2                                                                                 | 2                                                                                                                                                                                                                                                     | 2                                                                                 | 6                                                                                 | 6                                                                                                                                                                                                                                                     | 6                                                                                 | 8                                                                                   | 8                                                                                                                                                                       |                                                                                     | 4                                                                                   | 4                                                                                   |                                                                                     |
| Switch Phase                                               |                                                                                   |                                                                                                                                                                                                                                                       |                                                                                   |                                                                                   |                                                                                                                                                                                                                                                       |                                                                                   |                                                                                     |                                                                                                                                                                         |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Minimum Initial (s)                                        | 5.0                                                                               | 5.0                                                                                                                                                                                                                                                   | 5.0                                                                               | 5.0                                                                               | 5.0                                                                                                                                                                                                                                                   | 5.0                                                                               | 5.0                                                                                 | 5.0                                                                                                                                                                     |                                                                                     | 5.0                                                                                 | 5.0                                                                                 |                                                                                     |
| Minimum Split (s)                                          | 11.0                                                                              | 11.0                                                                                                                                                                                                                                                  | 11.0                                                                              | 11.0                                                                              | 11.0                                                                                                                                                                                                                                                  | 11.0                                                                              | 10.0                                                                                | 10.0                                                                                                                                                                    |                                                                                     | 10.0                                                                                | 10.0                                                                                |                                                                                     |
| Total Split (s)                                            | 100.0                                                                             | 100.0                                                                                                                                                                                                                                                 | 100.0                                                                             | 100.0                                                                             | 100.0                                                                                                                                                                                                                                                 | 100.0                                                                             | 20.0                                                                                | 20.0                                                                                                                                                                    |                                                                                     | 20.0                                                                                | 20.0                                                                                |                                                                                     |
| Total Split (%)                                            | 83.3%                                                                             | 83.3%                                                                                                                                                                                                                                                 | 83.3%                                                                             | 83.3%                                                                             | 83.3%                                                                                                                                                                                                                                                 | 83.3%                                                                             | 16.7%                                                                               | 16.7%                                                                                                                                                                   |                                                                                     | 16.7%                                                                               | 16.7%                                                                               |                                                                                     |
| Yellow Time (s)                                            | 4.0                                                                               | 4.0                                                                                                                                                                                                                                                   | 4.0                                                                               | 4.0                                                                               | 4.0                                                                                                                                                                                                                                                   | 4.0                                                                               | 3.0                                                                                 | 3.0                                                                                                                                                                     |                                                                                     | 3.0                                                                                 | 3.0                                                                                 |                                                                                     |
| All-Red Time (s)                                           | 2.0                                                                               | 2.0                                                                                                                                                                                                                                                   | 2.0                                                                               | 2.0                                                                               | 2.0                                                                                                                                                                                                                                                   | 2.0                                                                               | 2.0                                                                                 | 2.0                                                                                                                                                                     |                                                                                     | 2.0                                                                                 | 2.0                                                                                 |                                                                                     |
| Lost Time Adjust (s)                                       | 0.0                                                                               | 0.0                                                                                                                                                                                                                                                   | 0.0                                                                               | 0.0                                                                               | 0.0                                                                                                                                                                                                                                                   | 0.0                                                                               |                                                                                     | 0.0                                                                                                                                                                     |                                                                                     | 0.0                                                                                 | 0.0                                                                                 |                                                                                     |
| Total Lost Time (s)                                        | 6.0                                                                               | 6.0                                                                                                                                                                                                                                                   | 6.0                                                                               | 6.0                                                                               | 6.0                                                                                                                                                                                                                                                   | 6.0                                                                               |                                                                                     | 5.0                                                                                                                                                                     |                                                                                     | 5.0                                                                                 | 5.0                                                                                 |                                                                                     |
| Lead/Lag                                                   |                                                                                   |                                                                                                                                                                                                                                                       |                                                                                   |                                                                                   |                                                                                                                                                                                                                                                       |                                                                                   |                                                                                     |                                                                                                                                                                         |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Lead-Lag Optimize?                                         |                                                                                   |                                                                                                                                                                                                                                                       |                                                                                   |                                                                                   |                                                                                                                                                                                                                                                       |                                                                                   |                                                                                     |                                                                                                                                                                         |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Recall Mode                                                | C-Max                                                                             | C-Max                                                                                                                                                                                                                                                 | C-Max                                                                             | Max                                                                               | Max                                                                                                                                                                                                                                                   | Max                                                                               | Max                                                                                 | Max                                                                                                                                                                     |                                                                                     | Max                                                                                 | Max                                                                                 |                                                                                     |
| Act Effect Green (s)                                       | 94.0                                                                              | 94.0                                                                                                                                                                                                                                                  | 94.0                                                                              | 94.0                                                                              | 94.0                                                                                                                                                                                                                                                  | 94.0                                                                              |                                                                                     | 15.0                                                                                                                                                                    |                                                                                     | 15.0                                                                                | 15.0                                                                                |                                                                                     |
| Actuated g/C Ratio                                         | 0.78                                                                              | 0.78                                                                                                                                                                                                                                                  | 0.78                                                                              | 0.78                                                                              | 0.78                                                                                                                                                                                                                                                  | 0.78                                                                              |                                                                                     | 0.13                                                                                                                                                                    |                                                                                     | 0.13                                                                                | 0.13                                                                                |                                                                                     |
| v/c Ratio                                                  | 0.18                                                                              | 0.50                                                                                                                                                                                                                                                  | 0.14                                                                              | 0.20                                                                              | 0.42                                                                                                                                                                                                                                                  | 0.02                                                                              |                                                                                     | 0.21                                                                                                                                                                    |                                                                                     | 0.07                                                                                | 0.17                                                                                |                                                                                     |
| Control Delay (s/veh)                                      | 5.9                                                                               | 5.2                                                                                                                                                                                                                                                   | 0.7                                                                               | 9.2                                                                               | 8.1                                                                                                                                                                                                                                                   | 1.9                                                                               |                                                                                     | 42.8                                                                                                                                                                    |                                                                                     | 47.5                                                                                | 16.9                                                                                |                                                                                     |
| Queue Delay                                                | 0.0                                                                               | 0.0                                                                                                                                                                                                                                                   | 0.0                                                                               | 0.0                                                                               | 0.0                                                                                                                                                                                                                                                   | 0.0                                                                               |                                                                                     | 0.0                                                                                                                                                                     |                                                                                     | 0.0                                                                                 | 0.0                                                                                 |                                                                                     |
| Total Delay (s/veh)                                        | 5.9                                                                               | 5.2                                                                                                                                                                                                                                                   | 0.7                                                                               | 9.2                                                                               | 8.1                                                                                                                                                                                                                                                   | 1.9                                                                               |                                                                                     | 42.8                                                                                                                                                                    |                                                                                     | 47.5                                                                                | 16.9                                                                                |                                                                                     |
| LOS                                                        | A                                                                                 | A                                                                                                                                                                                                                                                     | A                                                                                 | A                                                                                 | A                                                                                                                                                                                                                                                     | A                                                                                 |                                                                                     | D                                                                                                                                                                       |                                                                                     | D                                                                                   | B                                                                                   |                                                                                     |
| Approach Delay (s/veh)                                     |                                                                                   | 4.8                                                                                                                                                                                                                                                   |                                                                                   |                                                                                   | 8.1                                                                                                                                                                                                                                                   |                                                                                   |                                                                                     | 42.8                                                                                                                                                                    |                                                                                     |                                                                                     | 24.5                                                                                |                                                                                     |
| Approach LOS                                               |                                                                                   | A                                                                                                                                                                                                                                                     |                                                                                   |                                                                                   | A                                                                                                                                                                                                                                                     |                                                                                   |                                                                                     | D                                                                                                                                                                       |                                                                                     |                                                                                     | C                                                                                   |                                                                                     |
| Queue Length 50th (ft)                                     | 5                                                                                 | 169                                                                                                                                                                                                                                                   | 0                                                                                 | 7                                                                                 | 237                                                                                                                                                                                                                                                   | 2                                                                                 |                                                                                     | 23                                                                                                                                                                      |                                                                                     | 9                                                                                   | 1                                                                                   |                                                                                     |
| Queue Length 95th (ft)                                     | 16                                                                                | 193                                                                                                                                                                                                                                                   | 14                                                                                | m22                                                                               | 281                                                                                                                                                                                                                                                   | m9                                                                                |                                                                                     | 57                                                                                                                                                                      |                                                                                     | 29                                                                                  | 34                                                                                  |                                                                                     |
| Internal Link Dist (ft)                                    |                                                                                   | 2474                                                                                                                                                                                                                                                  |                                                                                   |                                                                                   | 750                                                                                                                                                                                                                                                   |                                                                                   |                                                                                     | 6246                                                                                                                                                                    |                                                                                     |                                                                                     | 419                                                                                 |                                                                                     |
| Turn Bay Length (ft)                                       | 300                                                                               |                                                                                                                                                                                                                                                       | 400                                                                               | 315                                                                               |                                                                                                                                                                                                                                                       | 370                                                                               |                                                                                     |                                                                                                                                                                         |                                                                                     | 50                                                                                  |                                                                                     |                                                                                     |
| Base Capacity (vph)                                        | 177                                                                               | 3983                                                                                                                                                                                                                                                  | 1279                                                                              | 119                                                                               | 3983                                                                                                                                                                                                                                                  | 1244                                                                              |                                                                                     | 188                                                                                                                                                                     |                                                                                     | 186                                                                                 | 232                                                                                 |                                                                                     |
| 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                                                                                   |                                                                                     |
| Reduced v/c Ratio                                          | 0.18                                                                              | 0.50                                                                                                                                                                                                                                                  | 0.14                                                                              | 0.20                                                                              | 0.42                                                                                                                                                                                                                                                  | 0.02                                                                              |                                                                                     | 0.21                                                                                                                                                                    |                                                                                     | 0.07                                                                                | 0.17                                                                                |                                                                                     |
| Intersection Summary                                       |                                                                                   |                                                                                                                                                                                                                                                       |                                                                                   |                                                                                   |                                                                                                                                                                                                                                                       |                                                                                   |                                                                                     |                                                                                                                                                                         |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Cycle Length: 120                                          |                                                                                   |                                                                                                                                                                                                                                                       |                                                                                   |                                                                                   |                                                                                                                                                                                                                                                       |                                                                                   |                                                                                     |                                                                                                                                                                         |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Actuated Cycle Length: 120                                 |                                                                                   |                                                                                                                                                                                                                                                       |                                                                                   |                                                                                   |                                                                                                                                                                                                                                                       |                                                                                   |                                                                                     |                                                                                                                                                                         |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Offset: 0 (0%), Referenced to phase 2:EBTL, Start of Green |                                                                                   |                                                                                                                                                                                                                                                       |                                                                                   |                                                                                   |                                                                                                                                                                                                                                                       |                                                                                   |                                                                                     |                                                                                                                                                                         |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Natural Cycle: 40                                          |                                                                                   |                                                                                                                                                                                                                                                       |                                                                                   |                                                                                   |                                                                                                                                                                                                                                                       |                                                                                   |                                                                                     |                                                                                                                                                                         |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Control Type: Actuated-Coordinated                         |                                                                                   |                                                                                                                                                                                                                                                       |                                                                                   |                                                                                   |                                                                                                                                                                                                                                                       |                                                                                   |                                                                                     |                                                                                                                                                                         |                                                                                     |                                                                                     |                                                                                     |                                                                                     |

Timings  
1: Mohawk Road & E Woodmen Road

Background Traffic Conditions  
PM Peak Traffic Hour - 2030

|                                                                   |                        |
|-------------------------------------------------------------------|------------------------|
| Maximum v/c Ratio: 0.50                                           |                        |
| Intersection Signal Delay (s/veh): 6.8                            | Intersection LOS: A    |
| Intersection Capacity Utilization 53.7%                           | ICU Level of Service A |
| Analysis Period (min) 15                                          |                        |
| m Volume for 95th percentile queue is metered by upstream signal. |                        |

Splits and Phases: 1: Mohawk Road & E Woodmen Road



# Timings

## 2: Banning Lewis Parkway & E Woodmen Road

# Background Traffic Conditions

## PM Peak Traffic Hour - 2030

|                         |                                                                                    |                                                                                                                                                                      |  |                                                                                    |                                                                                                                                                                      |    |                                                                                      |                                                                                                                                                                          |  |                                                                                                                                                                          |                                                                                                                                                                          |  |
|-------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Lane Group              | EBL                                                                                                                                                                 | EBT                                                                                                                                                                                                                                                   | EBR                                                                               | WBL                                                                                                                                                                 | WBT                                                                                                                                                                                                                                                   | WBR                                                                                 | NBL                                                                                                                                                                     | NBT                                                                                                                                                                                                                                                         | NBR                                                                                 | SBL                                                                                                                                                                                                                                                         | SBT                                                                                                                                                                                                                                                         | SBR                                                                                 |
| Lane Configurations     |   |    |  |   |    |  |   |    |  |    |    |  |
| Traffic Volume (vph)    | 1                                                                                                                                                                   | 1690                                                                                                                                                                                                                                                  | 174                                                                               | 141                                                                                                                                                                 | 1486                                                                                                                                                                                                                                                  | 1                                                                                   | 83                                                                                                                                                                      | 1                                                                                                                                                                                                                                                           | 123                                                                                 | 8                                                                                                                                                                                                                                                           | 2                                                                                                                                                                                                                                                           | 13                                                                                  |
| Future Volume (vph)     | 1                                                                                                                                                                   | 1690                                                                                                                                                                                                                                                  | 174                                                                               | 141                                                                                                                                                                 | 1486                                                                                                                                                                                                                                                  | 1                                                                                   | 83                                                                                                                                                                      | 1                                                                                                                                                                                                                                                           | 123                                                                                 | 8                                                                                                                                                                                                                                                           | 2                                                                                                                                                                                                                                                           | 13                                                                                  |
| Satd. Flow (prot)       | 3433                                                                                                                                                                | 5085                                                                                                                                                                                                                                                  | 1583                                                                              | 3433                                                                                                                                                                | 5085                                                                                                                                                                                                                                                  | 1583                                                                                | 3433                                                                                                                                                                    | 5085                                                                                                                                                                                                                                                        | 1583                                                                                | 3433                                                                                                                                                                                                                                                        | 5085                                                                                                                                                                                                                                                        | 1583                                                                                |
| Flt Permitted           | 0.950                                                                                                                                                               |                                                                                                                                                                                                                                                       |                                                                                   | 0.950                                                                                                                                                               |                                                                                                                                                                                                                                                       |                                                                                     | 0.950                                                                                                                                                                   |                                                                                                                                                                                                                                                             |                                                                                     | 0.950                                                                                                                                                                                                                                                       |                                                                                                                                                                                                                                                             |                                                                                     |
| Satd. Flow (perm)       | 3433                                                                                                                                                                | 5085                                                                                                                                                                                                                                                  | 1583                                                                              | 3433                                                                                                                                                                | 5085                                                                                                                                                                                                                                                  | 1583                                                                                | 3433                                                                                                                                                                    | 5085                                                                                                                                                                                                                                                        | 1583                                                                                | 3433                                                                                                                                                                                                                                                        | 5085                                                                                                                                                                                                                                                        | 1583                                                                                |
| Satd. Flow (RTOR)       |                                                                                                                                                                     |                                                                                                                                                                                                                                                       | 382                                                                               |                                                                                                                                                                     |                                                                                                                                                                                                                                                       | 382                                                                                 |                                                                                                                                                                         |                                                                                                                                                                                                                                                             | 436                                                                                 |                                                                                                                                                                                                                                                             |                                                                                                                                                                                                                                                             | 382                                                                                 |
| Lane Group Flow (vph)   | 1                                                                                                                                                                   | 1837                                                                                                                                                                                                                                                  | 189                                                                               | 153                                                                                                                                                                 | 1615                                                                                                                                                                                                                                                  | 1                                                                                   | 90                                                                                                                                                                      | 1                                                                                                                                                                                                                                                           | 134                                                                                 | 9                                                                                                                                                                                                                                                           | 2                                                                                                                                                                                                                                                           | 14                                                                                  |
| Turn Type               | Prot                                                                                                                                                                | NA                                                                                                                                                                                                                                                    | Free                                                                              | Prot                                                                                                                                                                | NA                                                                                                                                                                                                                                                    | Free                                                                                | Prot                                                                                                                                                                    | NA                                                                                                                                                                                                                                                          | Free                                                                                | Prot                                                                                                                                                                                                                                                        | NA                                                                                                                                                                                                                                                          | Free                                                                                |
| Protected Phases        | 5                                                                                                                                                                   | 2                                                                                                                                                                                                                                                     |                                                                                   | 1                                                                                                                                                                   | 6                                                                                                                                                                                                                                                     |                                                                                     | 7                                                                                                                                                                       | 4                                                                                                                                                                                                                                                           |                                                                                     | 3                                                                                                                                                                                                                                                           | 8                                                                                                                                                                                                                                                           |                                                                                     |
| Permitted Phases        |                                                                                                                                                                     |                                                                                                                                                                                                                                                       | Free                                                                              |                                                                                                                                                                     |                                                                                                                                                                                                                                                       | Free                                                                                |                                                                                                                                                                         |                                                                                                                                                                                                                                                             | Free                                                                                |                                                                                                                                                                                                                                                             |                                                                                                                                                                                                                                                             | Free                                                                                |
| Detector Phase          | 5                                                                                                                                                                   | 2                                                                                                                                                                                                                                                     |                                                                                   | 1                                                                                                                                                                   | 6                                                                                                                                                                                                                                                     |                                                                                     | 7                                                                                                                                                                       | 4                                                                                                                                                                                                                                                           |                                                                                     | 3                                                                                                                                                                                                                                                           | 8                                                                                                                                                                                                                                                           |                                                                                     |
| Switch Phase            |                                                                                                                                                                     |                                                                                                                                                                                                                                                       |                                                                                   |                                                                                                                                                                     |                                                                                                                                                                                                                                                       |                                                                                     |                                                                                                                                                                         |                                                                                                                                                                                                                                                             |                                                                                     |                                                                                                                                                                                                                                                             |                                                                                                                                                                                                                                                             |                                                                                     |
| Minimum Initial (s)     | 5.0                                                                                                                                                                 | 5.0                                                                                                                                                                                                                                                   |                                                                                   | 5.0                                                                                                                                                                 | 5.0                                                                                                                                                                                                                                                   |                                                                                     | 5.0                                                                                                                                                                     | 5.0                                                                                                                                                                                                                                                         |                                                                                     | 5.0                                                                                                                                                                                                                                                         | 5.0                                                                                                                                                                                                                                                         |                                                                                     |
| Minimum Split (s)       | 11.0                                                                                                                                                                | 11.0                                                                                                                                                                                                                                                  |                                                                                   | 11.0                                                                                                                                                                | 11.0                                                                                                                                                                                                                                                  |                                                                                     | 11.0                                                                                                                                                                    | 11.0                                                                                                                                                                                                                                                        |                                                                                     | 11.0                                                                                                                                                                                                                                                        | 11.0                                                                                                                                                                                                                                                        |                                                                                     |
| Total Split (s)         | 11.0                                                                                                                                                                | 27.0                                                                                                                                                                                                                                                  |                                                                                   | 11.0                                                                                                                                                                | 27.0                                                                                                                                                                                                                                                  |                                                                                     | 11.0                                                                                                                                                                    | 11.0                                                                                                                                                                                                                                                        |                                                                                     | 11.0                                                                                                                                                                                                                                                        | 11.0                                                                                                                                                                                                                                                        |                                                                                     |
| Total Split (%)         | 18.3%                                                                                                                                                               | 45.0%                                                                                                                                                                                                                                                 |                                                                                   | 18.3%                                                                                                                                                               | 45.0%                                                                                                                                                                                                                                                 |                                                                                     | 18.3%                                                                                                                                                                   | 18.3%                                                                                                                                                                                                                                                       |                                                                                     | 18.3%                                                                                                                                                                                                                                                       | 18.3%                                                                                                                                                                                                                                                       |                                                                                     |
| Yellow Time (s)         | 4.0                                                                                                                                                                 | 4.0                                                                                                                                                                                                                                                   |                                                                                   | 4.0                                                                                                                                                                 | 4.0                                                                                                                                                                                                                                                   |                                                                                     | 4.0                                                                                                                                                                     | 4.0                                                                                                                                                                                                                                                         |                                                                                     | 4.0                                                                                                                                                                                                                                                         | 4.0                                                                                                                                                                                                                                                         |                                                                                     |
| All-Red Time (s)        | 2.0                                                                                                                                                                 | 2.0                                                                                                                                                                                                                                                   |                                                                                   | 2.0                                                                                                                                                                 | 2.0                                                                                                                                                                                                                                                   |                                                                                     | 2.0                                                                                                                                                                     | 2.0                                                                                                                                                                                                                                                         |                                                                                     | 2.0                                                                                                                                                                                                                                                         | 2.0                                                                                                                                                                                                                                                         |                                                                                     |
| Lost Time Adjust (s)    | 0.0                                                                                                                                                                 | 0.0                                                                                                                                                                                                                                                   |                                                                                   | 0.0                                                                                                                                                                 | 0.0                                                                                                                                                                                                                                                   |                                                                                     | 0.0                                                                                                                                                                     | 0.0                                                                                                                                                                                                                                                         |                                                                                     | 0.0                                                                                                                                                                                                                                                         | 0.0                                                                                                                                                                                                                                                         |                                                                                     |
| Total Lost Time (s)     | 6.0                                                                                                                                                                 | 6.0                                                                                                                                                                                                                                                   |                                                                                   | 6.0                                                                                                                                                                 | 6.0                                                                                                                                                                                                                                                   |                                                                                     | 6.0                                                                                                                                                                     | 6.0                                                                                                                                                                                                                                                         |                                                                                     | 6.0                                                                                                                                                                                                                                                         | 6.0                                                                                                                                                                                                                                                         |                                                                                     |
| Lead/Lag                | Lead                                                                                                                                                                | Lag                                                                                                                                                                                                                                                   |                                                                                   | Lead                                                                                                                                                                | Lag                                                                                                                                                                                                                                                   |                                                                                     | Lead                                                                                                                                                                    | Lag                                                                                                                                                                                                                                                         |                                                                                     | Lead                                                                                                                                                                                                                                                        | Lag                                                                                                                                                                                                                                                         |                                                                                     |
| Lead-Lag Optimize?      | Yes                                                                                                                                                                 | Yes                                                                                                                                                                                                                                                   |                                                                                   | Yes                                                                                                                                                                 | Yes                                                                                                                                                                                                                                                   |                                                                                     | Yes                                                                                                                                                                     | Yes                                                                                                                                                                                                                                                         |                                                                                     | Yes                                                                                                                                                                                                                                                         | Yes                                                                                                                                                                                                                                                         |                                                                                     |
| Recall Mode             | None                                                                                                                                                                | C-Max                                                                                                                                                                                                                                                 |                                                                                   | None                                                                                                                                                                | C-Max                                                                                                                                                                                                                                                 |                                                                                     | None                                                                                                                                                                    | None                                                                                                                                                                                                                                                        |                                                                                     | None                                                                                                                                                                                                                                                        | None                                                                                                                                                                                                                                                        |                                                                                     |
| Act Effect Green (s)    | 5.4                                                                                                                                                                 | 33.3                                                                                                                                                                                                                                                  | 60.0                                                                              | 7.0                                                                                                                                                                 | 41.7                                                                                                                                                                                                                                                  | 60.0                                                                                | 5.3                                                                                                                                                                     | 5.4                                                                                                                                                                                                                                                         | 60.0                                                                                | 5.0                                                                                                                                                                                                                                                         | 5.1                                                                                                                                                                                                                                                         | 60.0                                                                                |
| Actuated g/C Ratio      | 0.09                                                                                                                                                                | 0.56                                                                                                                                                                                                                                                  | 1.00                                                                              | 0.12                                                                                                                                                                | 0.70                                                                                                                                                                                                                                                  | 1.00                                                                                | 0.09                                                                                                                                                                    | 0.09                                                                                                                                                                                                                                                        | 1.00                                                                                | 0.08                                                                                                                                                                                                                                                        | 0.09                                                                                                                                                                                                                                                        | 1.00                                                                                |
| v/c Ratio               | 0.00                                                                                                                                                                | 0.65                                                                                                                                                                                                                                                  | 0.12                                                                              | 0.38                                                                                                                                                                | 0.46                                                                                                                                                                                                                                                  | 0.00                                                                                | 0.30                                                                                                                                                                    | 0.00                                                                                                                                                                                                                                                        | 0.08                                                                                | 0.03                                                                                                                                                                                                                                                        | 0.00                                                                                                                                                                                                                                                        | 0.01                                                                                |
| Control Delay (s/veh)   | 34.0                                                                                                                                                                | 12.9                                                                                                                                                                                                                                                  | 0.1                                                                               | 30.8                                                                                                                                                                | 11.5                                                                                                                                                                                                                                                  | 0.0                                                                                 | 28.4                                                                                                                                                                    | 25.0                                                                                                                                                                                                                                                        | 0.1                                                                                 | 25.6                                                                                                                                                                                                                                                        | 25.5                                                                                                                                                                                                                                                        | 0.0                                                                                 |
| 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                                                                                 |
| Total Delay (s/veh)     | 34.0                                                                                                                                                                | 12.9                                                                                                                                                                                                                                                  | 0.1                                                                               | 30.8                                                                                                                                                                | 11.5                                                                                                                                                                                                                                                  | 0.0                                                                                 | 28.4                                                                                                                                                                    | 25.0                                                                                                                                                                                                                                                        | 0.1                                                                                 | 25.6                                                                                                                                                                                                                                                        | 25.5                                                                                                                                                                                                                                                        | 0.0                                                                                 |
| LOS                     | C                                                                                                                                                                   | B                                                                                                                                                                                                                                                     | A                                                                                 | C                                                                                                                                                                   | B                                                                                                                                                                                                                                                     | A                                                                                   | C                                                                                                                                                                       | C                                                                                                                                                                                                                                                           | A                                                                                   | C                                                                                                                                                                                                                                                           | C                                                                                                                                                                                                                                                           | A                                                                                   |
| Approach Delay (s/veh)  |                                                                                                                                                                     | 11.7                                                                                                                                                                                                                                                  |                                                                                   |                                                                                                                                                                     | 13.2                                                                                                                                                                                                                                                  |                                                                                     |                                                                                                                                                                         | 11.6                                                                                                                                                                                                                                                        |                                                                                     |                                                                                                                                                                                                                                                             | 11.3                                                                                                                                                                                                                                                        |                                                                                     |
| Approach LOS            |                                                                                                                                                                     | B                                                                                                                                                                                                                                                     |                                                                                   |                                                                                                                                                                     | B                                                                                                                                                                                                                                                     |                                                                                     |                                                                                                                                                                         | B                                                                                                                                                                                                                                                           |                                                                                     |                                                                                                                                                                                                                                                             | B                                                                                                                                                                                                                                                           |                                                                                     |
| Queue Length 50th (ft)  | 0                                                                                                                                                                   | 214                                                                                                                                                                                                                                                   | 0                                                                                 | 44                                                                                                                                                                  | 130                                                                                                                                                                                                                                                   | 0                                                                                   | 15                                                                                                                                                                      | 0                                                                                                                                                                                                                                                           | 0                                                                                   | 1                                                                                                                                                                                                                                                           | 0                                                                                                                                                                                                                                                           | 0                                                                                   |
| Queue Length 95th (ft)  | m0                                                                                                                                                                  | #420                                                                                                                                                                                                                                                  | 0                                                                                 | 77                                                                                                                                                                  | 389                                                                                                                                                                                                                                                   | m0                                                                                  | 35                                                                                                                                                                      | 1                                                                                                                                                                                                                                                           | 0                                                                                   | 7                                                                                                                                                                                                                                                           | 2                                                                                                                                                                                                                                                           | 0                                                                                   |
| Internal Link Dist (ft) |                                                                                                                                                                     | 712                                                                                                                                                                                                                                                   |                                                                                   |                                                                                                                                                                     | 722                                                                                                                                                                                                                                                   |                                                                                     |                                                                                                                                                                         | 667                                                                                                                                                                                                                                                         |                                                                                     |                                                                                                                                                                                                                                                             | 695                                                                                                                                                                                                                                                         |                                                                                     |
| Turn Bay Length (ft)    | 285                                                                                                                                                                 |                                                                                                                                                                                                                                                       |                                                                                   | 285                                                                                                                                                                 |                                                                                                                                                                                                                                                       | 225                                                                                 | 185                                                                                                                                                                     |                                                                                                                                                                                                                                                             | 185                                                                                 | 185                                                                                                                                                                                                                                                         |                                                                                                                                                                                                                                                             | 185                                                                                 |
| Base Capacity (vph)     | 308                                                                                                                                                                 | 2822                                                                                                                                                                                                                                                  | 1583                                                                              | 399                                                                                                                                                                 | 3533                                                                                                                                                                                                                                                  | 1583                                                                                | 303                                                                                                                                                                     | 457                                                                                                                                                                                                                                                         | 1583                                                                                | 286                                                                                                                                                                                                                                                         | 432                                                                                                                                                                                                                                                         | 1583                                                                                |
| Starvation Cap Reductn  | 0                                                                                                                                                                   | 0                                                                                                                                                                                                                                                     | 0                                                                                 | 0                                                                                                                                                                   | 0                                                                                                                                                                                                                                                     | 0                                                                                   | 0                                                                                                                                                                       | 0                                                                                                                                                                                                                                                           | 0                                                                                   | 0                                                                                                                                                                                                                                                           | 0                                                                                                                                                                                                                                                           | 0                                                                                   |
| Spillback Cap Reductn   | 0                                                                                                                                                                   | 0                                                                                                                                                                                                                                                     | 0                                                                                 | 0                                                                                                                                                                   | 0                                                                                                                                                                                                                                                     | 0                                                                                   | 0                                                                                                                                                                       | 0                                                                                                                                                                                                                                                           | 0                                                                                   | 0                                                                                                                                                                                                                                                           | 0                                                                                                                                                                                                                                                           | 0                                                                                   |
| Storage Cap Reductn     | 0                                                                                                                                                                   | 0                                                                                                                                                                                                                                                     | 0                                                                                 | 0                                                                                                                                                                   | 0                                                                                                                                                                                                                                                     | 0                                                                                   | 0                                                                                                                                                                       | 0                                                                                                                                                                                                                                                           | 0                                                                                   | 0                                                                                                                                                                                                                                                           | 0                                                                                                                                                                                                                                                           | 0                                                                                   |
| Reduced v/c Ratio       | 0.00                                                                                                                                                                | 0.65                                                                                                                                                                                                                                                  | 0.12                                                                              | 0.38                                                                                                                                                                | 0.46                                                                                                                                                                                                                                                  | 0.00                                                                                | 0.30                                                                                                                                                                    | 0.00                                                                                                                                                                                                                                                        | 0.08                                                                                | 0.03                                                                                                                                                                                                                                                        | 0.00                                                                                                                                                                                                                                                        | 0.01                                                                                |

### Intersection Summary

Cycle Length: 60

Actuated Cycle Length: 60

Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Green

Natural Cycle: 60

Control Type: Actuated-Coordinated

Timings  
 2: Banning Lewis Parkway & E Woodmen Road

Background Traffic Conditions  
 PM Peak Traffic Hour - 2030

Maximum v/c Ratio: 0.65

Intersection Signal Delay (s/veh): 12.4

Intersection LOS: B

Intersection Capacity Utilization 60.9%

ICU Level of Service B

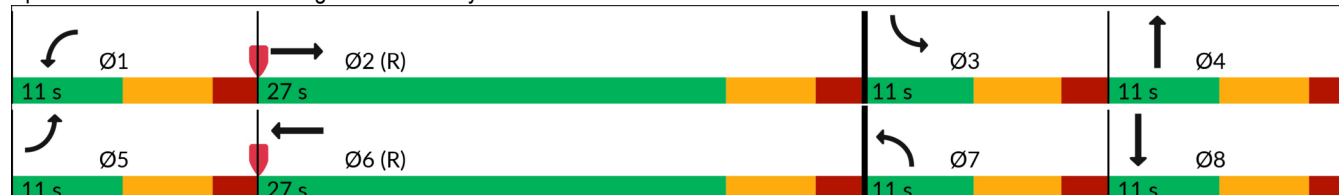
Analysis Period (min) 15

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

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 2: Banning Lewis Parkway & E Woodmen Road



Timings

3: Golden Sage Road & E Woodmen Road

Background Traffic Conditions

PM Peak Traffic Hour - 2030

|                         |  |  |  |  |  |  |  |  |  |  |  |  |
|-------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Lane Group              | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | WBR                                                                               | NBL                                                                                 | NBT                                                                                 | NBR                                                                                 | SBL                                                                                 | SBT                                                                                 | SBR                                                                                 |
| Lane Configurations     |  |  |  |  |  |  |  |  |  |  |  |  |
| Traffic Volume (vph)    | 283                                                                               | 1435                                                                              | 130                                                                               | 43                                                                                | 1296                                                                              | 8                                                                                 | 52                                                                                  | 15                                                                                  | 12                                                                                  | 15                                                                                  | 13                                                                                  | 223                                                                                 |
| Future Volume (vph)     | 283                                                                               | 1435                                                                              | 130                                                                               | 43                                                                                | 1296                                                                              | 8                                                                                 | 52                                                                                  | 15                                                                                  | 12                                                                                  | 15                                                                                  | 13                                                                                  | 223                                                                                 |
| Satd. Flow (prot)       | 1770                                                                              | 3539                                                                              | 1583                                                                              | 1770                                                                              | 5085                                                                              | 1583                                                                              | 1770                                                                                | 1863                                                                                | 1583                                                                                | 1770                                                                                | 1598                                                                                | 0                                                                                   |
| Flt Permitted           | 0.115                                                                             |                                                                                   |                                                                                   | 0.116                                                                             |                                                                                   |                                                                                   | 0.327                                                                               |                                                                                     |                                                                                     | 0.747                                                                               |                                                                                     |                                                                                     |
| Satd. Flow (perm)       | 214                                                                               | 3539                                                                              | 1583                                                                              | 216                                                                               | 5085                                                                              | 1583                                                                              | 609                                                                                 | 1863                                                                                | 1583                                                                                | 1391                                                                                | 1598                                                                                | 0                                                                                   |
| Satd. Flow (RTOR)       |                                                                                   |                                                                                   | 141                                                                               |                                                                                   |                                                                                   | 127                                                                               |                                                                                     |                                                                                     | 182                                                                                 |                                                                                     | 242                                                                                 |                                                                                     |
| Lane Group Flow (vph)   | 308                                                                               | 1560                                                                              | 141                                                                               | 47                                                                                | 1409                                                                              | 9                                                                                 | 57                                                                                  | 16                                                                                  | 13                                                                                  | 16                                                                                  | 256                                                                                 | 0                                                                                   |
| Turn Type               | pm+pt                                                                             | NA                                                                                | Perm                                                                              | pm+pt                                                                             | NA                                                                                | Perm                                                                              | Perm                                                                                | NA                                                                                  | Free                                                                                | Perm                                                                                | NA                                                                                  |                                                                                     |
| Protected Phases        | 5                                                                                 | 2                                                                                 |                                                                                   | 1                                                                                 | 6                                                                                 |                                                                                   |                                                                                     | 4                                                                                   |                                                                                     |                                                                                     | 8                                                                                   |                                                                                     |
| Permitted Phases        | 2                                                                                 |                                                                                   | 2                                                                                 | 6                                                                                 |                                                                                   | 6                                                                                 | 4                                                                                   |                                                                                     | Free                                                                                | 8                                                                                   |                                                                                     |                                                                                     |
| Detector Phase          | 5                                                                                 | 2                                                                                 | 2                                                                                 | 1                                                                                 | 6                                                                                 | 6                                                                                 | 4                                                                                   | 4                                                                                   |                                                                                     | 8                                                                                   | 8                                                                                   |                                                                                     |
| Switch Phase            |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Minimum Initial (s)     | 5.0                                                                               | 5.0                                                                               | 5.0                                                                               | 5.0                                                                               | 5.0                                                                               | 5.0                                                                               | 5.0                                                                                 | 5.0                                                                                 |                                                                                     | 5.0                                                                                 | 5.0                                                                                 |                                                                                     |
| Minimum Split (s)       | 11.0                                                                              | 11.0                                                                              | 11.0                                                                              | 11.0                                                                              | 11.0                                                                              | 11.0                                                                              | 10.0                                                                                | 10.0                                                                                |                                                                                     | 10.0                                                                                | 10.0                                                                                |                                                                                     |
| Total Split (s)         | 32.0                                                                              | 80.0                                                                              | 80.0                                                                              | 11.0                                                                              | 59.0                                                                              | 59.0                                                                              | 29.0                                                                                | 29.0                                                                                |                                                                                     | 29.0                                                                                | 29.0                                                                                |                                                                                     |
| Total Split (%)         | 26.7%                                                                             | 66.7%                                                                             | 66.7%                                                                             | 9.2%                                                                              | 49.2%                                                                             | 49.2%                                                                             | 24.2%                                                                               | 24.2%                                                                               |                                                                                     | 24.2%                                                                               | 24.2%                                                                               |                                                                                     |
| Yellow Time (s)         | 4.0                                                                               | 4.0                                                                               | 4.0                                                                               | 4.0                                                                               | 4.0                                                                               | 4.0                                                                               | 3.0                                                                                 | 3.0                                                                                 |                                                                                     | 3.0                                                                                 | 3.0                                                                                 |                                                                                     |
| All-Red Time (s)        | 2.0                                                                               | 2.0                                                                               | 2.0                                                                               | 2.0                                                                               | 2.0                                                                               | 2.0                                                                               | 2.0                                                                                 | 2.0                                                                                 |                                                                                     | 2.0                                                                                 | 2.0                                                                                 |                                                                                     |
| Lost Time Adjust (s)    | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               | 0.0                                                                                 | 0.0                                                                                 |                                                                                     | 0.0                                                                                 | 0.0                                                                                 |                                                                                     |
| Total Lost Time (s)     | 6.0                                                                               | 6.0                                                                               | 6.0                                                                               | 6.0                                                                               | 6.0                                                                               | 6.0                                                                               | 5.0                                                                                 | 5.0                                                                                 |                                                                                     | 5.0                                                                                 | 5.0                                                                                 |                                                                                     |
| Lead/Lag                | Lead                                                                              | Lag                                                                               | Lag                                                                               | Lead                                                                              | Lag                                                                               | Lag                                                                               |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Lead-Lag Optimize?      | Yes                                                                               | Yes                                                                               | Yes                                                                               | Yes                                                                               | Yes                                                                               | Yes                                                                               |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Recall Mode             | None                                                                              | C-Max                                                                             | C-Max                                                                             | None                                                                              | C-Max                                                                             | C-Max                                                                             | Max                                                                                 | Max                                                                                 |                                                                                     | Max                                                                                 | Max                                                                                 |                                                                                     |
| Act Effect Green (s)    | 85.0                                                                              | 76.2                                                                              | 76.2                                                                              | 65.6                                                                              | 60.6                                                                              | 60.6                                                                              | 24.0                                                                                | 24.0                                                                                | 120.0                                                                               | 24.0                                                                                | 24.0                                                                                |                                                                                     |
| Actuated g/C Ratio      | 0.71                                                                              | 0.64                                                                              | 0.64                                                                              | 0.55                                                                              | 0.51                                                                              | 0.51                                                                              | 0.20                                                                                | 0.20                                                                                | 1.00                                                                                | 0.20                                                                                | 0.20                                                                                |                                                                                     |
| v/c Ratio               | 0.79                                                                              | 0.69                                                                              | 0.13                                                                              | 0.26                                                                              | 0.55                                                                              | 0.01                                                                              | 0.47                                                                                | 0.04                                                                                | 0.01                                                                                | 0.06                                                                                | 0.50                                                                                |                                                                                     |
| Control Delay (s/veh)   | 43.6                                                                              | 18.4                                                                              | 6.2                                                                               | 12.4                                                                              | 22.2                                                                              | 0.0                                                                               | 56.9                                                                                | 39.3                                                                                | 0.0                                                                                 | 39.7                                                                                | 9.9                                                                                 |                                                                                     |
| Queue Delay             | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               | 0.0                                                                                 | 0.0                                                                                 | 0.0                                                                                 | 0.0                                                                                 | 0.0                                                                                 |                                                                                     |
| Total Delay (s/veh)     | 43.6                                                                              | 18.4                                                                              | 6.2                                                                               | 12.4                                                                              | 22.2                                                                              | 0.0                                                                               | 56.9                                                                                | 39.3                                                                                | 0.0                                                                                 | 39.7                                                                                | 9.9                                                                                 |                                                                                     |
| LOS                     | D                                                                                 | B                                                                                 | A                                                                                 | B                                                                                 | C                                                                                 | A                                                                                 | E                                                                                   | D                                                                                   | A                                                                                   | D                                                                                   | A                                                                                   |                                                                                     |
| Approach Delay (s/veh)  |                                                                                   | 21.4                                                                              |                                                                                   |                                                                                   | 21.8                                                                              |                                                                                   |                                                                                     | 45.0                                                                                |                                                                                     |                                                                                     | 11.7                                                                                |                                                                                     |
| Approach LOS            |                                                                                   | C                                                                                 |                                                                                   |                                                                                   | C                                                                                 |                                                                                   |                                                                                     | D                                                                                   |                                                                                     |                                                                                     | B                                                                                   |                                                                                     |
| Queue Length 50th (ft)  | 178                                                                               | 325                                                                               | 28                                                                                | 10                                                                                | 266                                                                               | 0                                                                                 | 39                                                                                  | 10                                                                                  | 0                                                                                   | 10                                                                                  | 9                                                                                   |                                                                                     |
| Queue Length 95th (ft)  | 280                                                                               | 382                                                                               | m64                                                                               | 21                                                                                | 353                                                                               | 0                                                                                 | 87                                                                                  | 30                                                                                  | 0                                                                                   | 30                                                                                  | 82                                                                                  |                                                                                     |
| Internal Link Dist (ft) |                                                                                   | 600                                                                               |                                                                                   |                                                                                   | 542                                                                               |                                                                                   |                                                                                     | 565                                                                                 |                                                                                     |                                                                                     | 379                                                                                 |                                                                                     |
| Turn Bay Length (ft)    | 530                                                                               |                                                                                   | 380                                                                               | 330                                                                               |                                                                                   | 360                                                                               | 125                                                                                 |                                                                                     | 195                                                                                 | 110                                                                                 |                                                                                     |                                                                                     |
| Base Capacity (vph)     | 488                                                                               | 2247                                                                              | 1056                                                                              | 182                                                                               | 2566                                                                              | 862                                                                               | 121                                                                                 | 372                                                                                 | 1583                                                                                | 278                                                                                 | 513                                                                                 |                                                                                     |
| Starvation Cap Reductn  | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                   | 0                                                                                   | 0                                                                                   | 0                                                                                   | 0                                                                                   |                                                                                     |
| Spillback Cap Reductn   | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                   | 0                                                                                   | 0                                                                                   | 0                                                                                   | 0                                                                                   |                                                                                     |
| Storage Cap Reductn     | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                   | 0                                                                                   | 0                                                                                   | 0                                                                                   | 0                                                                                   |                                                                                     |
| Reduced v/c Ratio       | 0.63                                                                              | 0.69                                                                              | 0.13                                                                              | 0.26                                                                              | 0.55                                                                              | 0.01                                                                              | 0.47                                                                                | 0.04                                                                                | 0.01                                                                                | 0.06                                                                                | 0.50                                                                                |                                                                                     |

Intersection Summary

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green

Natural Cycle: 60

Control Type: Actuated-Coordinated

|                                                                   |                        |
|-------------------------------------------------------------------|------------------------|
| Maximum v/c Ratio: 0.79                                           |                        |
| Intersection Signal Delay (s/veh): 21.4                           | Intersection LOS: C    |
| Intersection Capacity Utilization 80.8%                           | ICU Level of Service D |
| Analysis Period (min) 15                                          |                        |
| m Volume for 95th percentile queue is metered by upstream signal. |                        |

Splits and Phases: 3: Golden Sage Road & E Woodmen Road



HCM Unsignalized Intersection Capacity Analysis  
4: Golden Sage Road & Woodmen Frontage Road

Background Traffic Conditions  
PM Peak Traffic Hour - 2030

|                                   |  |  |  |  |  |  |                      |  |  |
|-----------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|----------------------|--|--|
| Movement                          | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | NBL                                                                               | NBR                                                                               |                      |  |  |
| Lane Configurations               |  |                                                                                   |                                                                                   |  |  |                                                                                   |                      |  |  |
| Traffic Volume (veh/h)            | 5                                                                                 | 1                                                                                 | 270                                                                               | 5                                                                                 | 336                                                                               | 1                                                                                 |                      |  |  |
| Future Volume (Veh/h)             | 5                                                                                 | 1                                                                                 | 270                                                                               | 5                                                                                 | 336                                                                               | 1                                                                                 |                      |  |  |
| Sign Control                      | Stop                                                                              |                                                                                   |                                                                                   | Stop                                                                              | Free                                                                              |                                                                                   |                      |  |  |
| Grade                             | 0%                                                                                |                                                                                   |                                                                                   | 0%                                                                                | 0%                                                                                |                                                                                   |                      |  |  |
| Peak Hour Factor                  | 0.92                                                                              | 0.92                                                                              | 0.92                                                                              | 0.92                                                                              | 0.92                                                                              | 0.92                                                                              |                      |  |  |
| Hourly flow rate (vph)            | 5                                                                                 | 1                                                                                 | 293                                                                               | 5                                                                                 | 365                                                                               | 1                                                                                 |                      |  |  |
| Pedestrians                       |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                      |  |  |
| Lane Width (ft)                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                      |  |  |
| Walking Speed (ft/s)              |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                      |  |  |
| Percent Blockage                  |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                      |  |  |
| Right turn flare (veh)            |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                      |  |  |
| Median type                       |                                                                                   |                                                                                   |                                                                                   |                                                                                   | None                                                                              |                                                                                   |                      |  |  |
| Median storage veh                |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                      |  |  |
| Upstream signal (ft)              |                                                                                   |                                                                                   |                                                                                   |                                                                                   | 459                                                                               |                                                                                   |                      |  |  |
| pX, platoon unblocked             |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                      |  |  |
| vC, conflicting volume            | 731                                                                               | 0                                                                                 | 734                                                                               | 731                                                                               | 0                                                                                 |                                                                                   |                      |  |  |
| vC1, stage 1 conf vol             |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                      |  |  |
| vC2, stage 2 conf vol             |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                      |  |  |
| vCu, unblocked vol                | 731                                                                               | 0                                                                                 | 734                                                                               | 731                                                                               | 0                                                                                 |                                                                                   |                      |  |  |
| tC, single (s)                    | 6.5                                                                               | 6.2                                                                               | 7.1                                                                               | 6.5                                                                               | 4.1                                                                               |                                                                                   |                      |  |  |
| tC, 2 stage (s)                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                      |  |  |
| tF (s)                            | 4.0                                                                               | 3.3                                                                               | 3.5                                                                               | 4.0                                                                               | 2.2                                                                               |                                                                                   |                      |  |  |
| p0 queue free %                   | 98                                                                                | 100                                                                               | 0                                                                                 | 98                                                                                | 78                                                                                |                                                                                   |                      |  |  |
| cM capacity (veh/h)               | 270                                                                               | 1085                                                                              | 274                                                                               | 270                                                                               | 1623                                                                              |                                                                                   |                      |  |  |
| Direction, Lane #                 | EB 1                                                                              | WB 1                                                                              | NB 1                                                                              |                                                                                   |                                                                                   |                                                                                   |                      |  |  |
| Volume Total                      | 6                                                                                 | 298                                                                               | 366                                                                               |                                                                                   |                                                                                   |                                                                                   |                      |  |  |
| Volume Left                       | 0                                                                                 | 293                                                                               | 365                                                                               |                                                                                   |                                                                                   |                                                                                   |                      |  |  |
| Volume Right                      | 1                                                                                 | 0                                                                                 | 1                                                                                 |                                                                                   |                                                                                   |                                                                                   |                      |  |  |
| cSH                               | 309                                                                               | 274                                                                               | 1623                                                                              |                                                                                   |                                                                                   |                                                                                   |                      |  |  |
| Volume to Capacity                | 0.02                                                                              | 1.09                                                                              | 0.22                                                                              |                                                                                   |                                                                                   |                                                                                   |                      |  |  |
| Queue Length 95th (ft)            | 1                                                                                 | 305                                                                               | 22                                                                                |                                                                                   |                                                                                   |                                                                                   |                      |  |  |
| Control Delay (s/veh)             | 16.9                                                                              | 121.1                                                                             | 7.8                                                                               |                                                                                   |                                                                                   |                                                                                   |                      |  |  |
| Lane LOS                          | C                                                                                 | F                                                                                 | A                                                                                 |                                                                                   |                                                                                   |                                                                                   |                      |  |  |
| Approach Delay (s/veh)            | 16.9                                                                              | 121.1                                                                             | 7.8                                                                               |                                                                                   |                                                                                   |                                                                                   |                      |  |  |
| Approach LOS                      | C                                                                                 | F                                                                                 |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                      |  |  |
| Intersection Summary              |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                      |  |  |
| Average Delay                     |                                                                                   |                                                                                   | 58.3                                                                              |                                                                                   |                                                                                   |                                                                                   |                      |  |  |
| Intersection Capacity Utilization |                                                                                   |                                                                                   | 47.2%                                                                             |                                                                                   |                                                                                   |                                                                                   | ICU Level of Service |  |  |
| Analysis Period (min)             |                                                                                   |                                                                                   | 15                                                                                |                                                                                   | A                                                                                 |                                                                                   |                      |  |  |

Intersection

Int Delay, s/veh 4.4

| Movement                 | EBL  | EBT  | EBR  | WBL  | WBT  | WBR  | NBL  | NBT  | NBR  | SBL  | SBT  | SBR  |
|--------------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Lane Configurations      |      | ↕    |      |      | ↕    |      |      | ↕    |      |      | ↕    |      |
| Traffic Vol, veh/h       | 4    | 4    | 9    | 20   | 7    | 5    | 8    | 21   | 11   | 1    | 20   | 5    |
| Future Vol, veh/h        | 4    | 4    | 9    | 20   | 7    | 5    | 8    | 21   | 11   | 1    | 20   | 5    |
| Conflicting Peds, #/hr   | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Sign Control             | Stop | Stop | Stop | Stop | Stop | Stop | Free | Free | Free | Free | Free | Free |
| RT Channelized           | -    | -    | None | -    | -    | None | -    | -    | None | -    | -    | 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                | 4    | 4    | 10   | 22   | 8    | 5    | 9    | 23   | 12   | 1    | 22   | 5    |

| Major/Minor          | Minor2 |       | Minor1 |       | Major1 |       | Major2 |   |   |       |   |   |
|----------------------|--------|-------|--------|-------|--------|-------|--------|---|---|-------|---|---|
| Conflicting Flow All | 71     | 79    | 24     | 72    | 76     | 29    | 27     | 0 | 0 | 35    | 0 | 0 |
| Stage 1              | 27     | 27    | -      | 46    | 46     | -     | -      | - | - | -     | - | - |
| Stage 2              | 44     | 52    | -      | 26    | 29     | -     | -      | - | - | -     | - | - |
| Critical Hdwy        | 7.12   | 6.52  | 6.22   | 7.12  | 6.52   | 6.22  | 4.12   | - | - | 4.12  | - | - |
| Critical Hdwy Stg 1  | 6.12   | 5.52  | -      | 6.12  | 5.52   | -     | -      | - | - | -     | - | - |
| Critical Hdwy Stg 2  | 6.12   | 5.52  | -      | 6.12  | 5.52   | -     | -      | - | - | -     | - | - |
| Follow-up Hdwy       | 3.518  | 4.018 | 3.318  | 3.518 | 4.018  | 3.318 | 2.218  | - | - | 2.218 | - | - |
| Pot Cap-1 Maneuver   | 921    | 811   | 1052   | 919   | 815    | 1046  | 1587   | - | - | 1577  | - | - |
| Stage 1              | 991    | 873   | -      | 968   | 856    | -     | -      | - | - | -     | - | - |
| Stage 2              | 970    | 851   | -      | 991   | 871    | -     | -      | - | - | -     | - | - |
| Platoon blocked, %   |        |       |        |       |        |       |        | - | - |       | - | - |
| Mov Cap-1 Maneuver   | 902    | 806   | 1052   | 900   | 810    | 1046  | 1587   | - | - | 1577  | - | - |
| Mov Cap-2 Maneuver   | 902    | 806   | -      | 900   | 810    | -     | -      | - | - | -     | - | - |
| Stage 1              | 990    | 872   | -      | 962   | 852    | -     | -      | - | - | -     | - | - |
| Stage 2              | 951    | 847   | -      | 977   | 870    | -     | -      | - | - | -     | - | - |

| Approach          | EB   | WB   | NB   | SB   |
|-------------------|------|------|------|------|
| HCM Ctrl Dly, s/v | 8.88 | 9.17 | 1.46 | 0.28 |
| HCM LOS           | A    | A    |      |      |

| Minor Lane/Major Mvmt | NBL   | NBT | NBR | EBLn1WBLn1 | SBL   | SBT   | SBR |
|-----------------------|-------|-----|-----|------------|-------|-------|-----|
| Capacity (veh/h)      | 337   | -   | -   | 947        | 897   | 67    | -   |
| HCM Lane V/C Ratio    | 0.005 | -   | -   | 0.02       | 0.039 | 0.001 | -   |
| HCM Ctrl Dly (s/v)    | 7.3   | 0   | -   | 8.9        | 9.2   | 7.3   | 0   |
| HCM Lane LOS          | A     | A   | -   | A          | A     | A     | -   |
| HCM 95th %tile Q(veh) | 0     | -   | -   | 0.1        | 0.1   | 0     | -   |

# Timings

1: Mohawk Road & E Woodmen Road

Background Traffic Conditions

AM Peak Traffic Hour - 2045

|                                                            |  |                                                                                                                                                                      |  |  |                                                                                                                                                                      |  |                                                                                      |  |  |  |  |  |
|------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Lane Group                                                 | EBL                                                                               | EBT                                                                                                                                                                                                                                                   | EBR                                                                               | WBL                                                                               | WBT                                                                                                                                                                                                                                                   | WBR                                                                               | NBL                                                                                                                                                                     | NBT                                                                                 | NBR                                                                                 | SBL                                                                                 | SBT                                                                                 | SBR                                                                                 |
| Lane Configurations                                        |  |    |  |  |    |  |   |  |  |  |  |  |
| Traffic Volume (vph)                                       | 80                                                                                | 1566                                                                                                                                                                                                                                                  | 162                                                                               | 129                                                                               | 3051                                                                                                                                                                                                                                                  | 33                                                                                | 278                                                                                                                                                                     | 7                                                                                   | 179                                                                                 | 95                                                                                  | 12                                                                                  | 125                                                                                 |
| Future Volume (vph)                                        | 80                                                                                | 1566                                                                                                                                                                                                                                                  | 162                                                                               | 129                                                                               | 3051                                                                                                                                                                                                                                                  | 33                                                                                | 278                                                                                                                                                                     | 7                                                                                   | 179                                                                                 | 95                                                                                  | 12                                                                                  | 125                                                                                 |
| Satd. Flow (prot)                                          | 1770                                                                              | 5085                                                                                                                                                                                                                                                  | 1583                                                                              | 1770                                                                              | 5085                                                                                                                                                                                                                                                  | 1583                                                                              | 3433                                                                                                                                                                    | 1863                                                                                | 1583                                                                                | 1770                                                                                | 1608                                                                                | 0                                                                                   |
| Flt Permitted                                              | 0.039                                                                             |                                                                                                                                                                                                                                                       |                                                                                   | 0.127                                                                             |                                                                                                                                                                                                                                                       |                                                                                   | 0.667                                                                                                                                                                   |                                                                                     |                                                                                     | 0.752                                                                               |                                                                                     |                                                                                     |
| Satd. Flow (perm)                                          | 73                                                                                | 5085                                                                                                                                                                                                                                                  | 1583                                                                              | 237                                                                               | 5085                                                                                                                                                                                                                                                  | 1583                                                                              | 2410                                                                                                                                                                    | 1863                                                                                | 1583                                                                                | 1401                                                                                | 1608                                                                                | 0                                                                                   |
| Satd. Flow (RTOR)                                          |                                                                                   |                                                                                                                                                                                                                                                       | 176                                                                               |                                                                                   |                                                                                                                                                                                                                                                       | 36                                                                                |                                                                                                                                                                         |                                                                                     | 78                                                                                  |                                                                                     | 5                                                                                   |                                                                                     |
| Lane Group Flow (vph)                                      | 87                                                                                | 1702                                                                                                                                                                                                                                                  | 176                                                                               | 140                                                                               | 3316                                                                                                                                                                                                                                                  | 36                                                                                | 302                                                                                                                                                                     | 8                                                                                   | 195                                                                                 | 103                                                                                 | 149                                                                                 | 0                                                                                   |
| Turn Type                                                  | Perm                                                                              | NA                                                                                                                                                                                                                                                    | Perm                                                                              | Perm                                                                              | NA                                                                                                                                                                                                                                                    | Perm                                                                              | Perm                                                                                                                                                                    | NA                                                                                  | Perm                                                                                | Perm                                                                                | NA                                                                                  |                                                                                     |
| Protected Phases                                           |                                                                                   | 2                                                                                                                                                                                                                                                     |                                                                                   |                                                                                   | 6                                                                                                                                                                                                                                                     |                                                                                   |                                                                                                                                                                         | 8                                                                                   |                                                                                     |                                                                                     | 4                                                                                   |                                                                                     |
| Permitted Phases                                           | 2                                                                                 |                                                                                                                                                                                                                                                       | 2                                                                                 | 6                                                                                 |                                                                                                                                                                                                                                                       | 6                                                                                 | 8                                                                                                                                                                       |                                                                                     | 8                                                                                   | 4                                                                                   |                                                                                     |                                                                                     |
| Detector Phase                                             | 2                                                                                 | 2                                                                                                                                                                                                                                                     | 2                                                                                 | 6                                                                                 | 6                                                                                                                                                                                                                                                     | 6                                                                                 | 8                                                                                                                                                                       | 8                                                                                   | 8                                                                                   | 4                                                                                   | 4                                                                                   |                                                                                     |
| Switch Phase                                               |                                                                                   |                                                                                                                                                                                                                                                       |                                                                                   |                                                                                   |                                                                                                                                                                                                                                                       |                                                                                   |                                                                                                                                                                         |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Minimum Initial (s)                                        | 5.0                                                                               | 5.0                                                                                                                                                                                                                                                   | 5.0                                                                               | 5.0                                                                               | 5.0                                                                                                                                                                                                                                                   | 5.0                                                                               | 5.0                                                                                                                                                                     | 5.0                                                                                 | 5.0                                                                                 | 5.0                                                                                 | 5.0                                                                                 |                                                                                     |
| Minimum Split (s)                                          | 11.0                                                                              | 11.0                                                                                                                                                                                                                                                  | 11.0                                                                              | 11.0                                                                              | 11.0                                                                                                                                                                                                                                                  | 11.0                                                                              | 10.0                                                                                                                                                                    | 10.0                                                                                | 10.0                                                                                | 10.0                                                                                | 10.0                                                                                |                                                                                     |
| Total Split (s)                                            | 109.0                                                                             | 109.0                                                                                                                                                                                                                                                 | 109.0                                                                             | 109.0                                                                             | 109.0                                                                                                                                                                                                                                                 | 109.0                                                                             | 11.0                                                                                                                                                                    | 11.0                                                                                | 11.0                                                                                | 11.0                                                                                | 11.0                                                                                |                                                                                     |
| Total Split (%)                                            | 90.8%                                                                             | 90.8%                                                                                                                                                                                                                                                 | 90.8%                                                                             | 90.8%                                                                             | 90.8%                                                                                                                                                                                                                                                 | 90.8%                                                                             | 9.2%                                                                                                                                                                    | 9.2%                                                                                | 9.2%                                                                                | 9.2%                                                                                | 9.2%                                                                                |                                                                                     |
| Yellow Time (s)                                            | 4.0                                                                               | 4.0                                                                                                                                                                                                                                                   | 4.0                                                                               | 4.0                                                                               | 4.0                                                                                                                                                                                                                                                   | 4.0                                                                               | 3.0                                                                                                                                                                     | 3.0                                                                                 | 3.0                                                                                 | 3.0                                                                                 | 3.0                                                                                 |                                                                                     |
| All-Red Time (s)                                           | 2.0                                                                               | 2.0                                                                                                                                                                                                                                                   | 2.0                                                                               | 2.0                                                                               | 2.0                                                                                                                                                                                                                                                   | 2.0                                                                               | 2.0                                                                                                                                                                     | 2.0                                                                                 | 2.0                                                                                 | 2.0                                                                                 | 2.0                                                                                 |                                                                                     |
| Lost Time Adjust (s)                                       | 0.0                                                                               | 0.0                                                                                                                                                                                                                                                   | 0.0                                                                               | 0.0                                                                               | 0.0                                                                                                                                                                                                                                                   | 0.0                                                                               | 0.0                                                                                                                                                                     | 0.0                                                                                 | 0.0                                                                                 | 0.0                                                                                 | 0.0                                                                                 |                                                                                     |
| Total Lost Time (s)                                        | 6.0                                                                               | 6.0                                                                                                                                                                                                                                                   | 6.0                                                                               | 6.0                                                                               | 6.0                                                                                                                                                                                                                                                   | 6.0                                                                               | 5.0                                                                                                                                                                     | 5.0                                                                                 | 5.0                                                                                 | 5.0                                                                                 | 5.0                                                                                 |                                                                                     |
| Lead/Lag                                                   |                                                                                   |                                                                                                                                                                                                                                                       |                                                                                   |                                                                                   |                                                                                                                                                                                                                                                       |                                                                                   |                                                                                                                                                                         |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Lead-Lag Optimize?                                         |                                                                                   |                                                                                                                                                                                                                                                       |                                                                                   |                                                                                   |                                                                                                                                                                                                                                                       |                                                                                   |                                                                                                                                                                         |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Recall Mode                                                | C-Max                                                                             | C-Max                                                                                                                                                                                                                                                 | C-Max                                                                             | Max                                                                               | Max                                                                                                                                                                                                                                                   | Max                                                                               | Max                                                                                                                                                                     | Max                                                                                 | Max                                                                                 | Max                                                                                 | Max                                                                                 |                                                                                     |
| Act Effct Green (s)                                        | 103.0                                                                             | 103.0                                                                                                                                                                                                                                                 | 103.0                                                                             | 103.0                                                                             | 103.0                                                                                                                                                                                                                                                 | 103.0                                                                             | 6.0                                                                                                                                                                     | 6.0                                                                                 | 6.0                                                                                 | 6.0                                                                                 | 6.0                                                                                 |                                                                                     |
| Actuated g/C Ratio                                         | 0.86                                                                              | 0.86                                                                                                                                                                                                                                                  | 0.86                                                                              | 0.86                                                                              | 0.86                                                                                                                                                                                                                                                  | 0.86                                                                              | 0.05                                                                                                                                                                    | 0.05                                                                                | 0.05                                                                                | 0.05                                                                                | 0.05                                                                                |                                                                                     |
| v/c Ratio                                                  | 1.40                                                                              | 0.39                                                                                                                                                                                                                                                  | 0.13                                                                              | 0.69                                                                              | 0.76                                                                                                                                                                                                                                                  | 0.03                                                                              | 2.52                                                                                                                                                                    | 0.09                                                                                | 1.27                                                                                | 1.47                                                                                | 1.75                                                                                |                                                                                     |
| Control Delay (s/veh)                                      | 273.3                                                                             | 2.1                                                                                                                                                                                                                                                   | 0.4                                                                               | 17.6                                                                              | 2.5                                                                                                                                                                                                                                                   | 0.2                                                                               | 729.9                                                                                                                                                                   | 56.6                                                                                | 192.0                                                                               | 313.7                                                                               | 414.7                                                                               |                                                                                     |
| Queue Delay                                                | 0.0                                                                               | 0.0                                                                                                                                                                                                                                                   | 0.0                                                                               | 0.0                                                                               | 0.0                                                                                                                                                                                                                                                   | 0.0                                                                               | 0.0                                                                                                                                                                     | 0.0                                                                                 | 0.0                                                                                 | 0.0                                                                                 | 0.0                                                                                 |                                                                                     |
| Total Delay (s/veh)                                        | 273.3                                                                             | 2.1                                                                                                                                                                                                                                                   | 0.4                                                                               | 17.6                                                                              | 2.5                                                                                                                                                                                                                                                   | 0.2                                                                               | 729.9                                                                                                                                                                   | 56.6                                                                                | 192.0                                                                               | 313.7                                                                               | 414.7                                                                               |                                                                                     |
| LOS                                                        | F                                                                                 | A                                                                                                                                                                                                                                                     | A                                                                                 | B                                                                                 | A                                                                                                                                                                                                                                                     | A                                                                                 | F                                                                                                                                                                       | E                                                                                   | F                                                                                   | F                                                                                   | F                                                                                   |                                                                                     |
| Approach Delay (s/veh)                                     |                                                                                   | 13.9                                                                                                                                                                                                                                                  |                                                                                   |                                                                                   | 3.1                                                                                                                                                                                                                                                   |                                                                                   |                                                                                                                                                                         | 511.5                                                                               |                                                                                     |                                                                                     | 373.4                                                                               |                                                                                     |
| Approach LOS                                               |                                                                                   | B                                                                                                                                                                                                                                                     |                                                                                   |                                                                                   | A                                                                                                                                                                                                                                                     |                                                                                   |                                                                                                                                                                         | F                                                                                   |                                                                                     |                                                                                     | F                                                                                   |                                                                                     |
| Queue Length 50th (ft)                                     | ~40                                                                               | 71                                                                                                                                                                                                                                                    | 0                                                                                 | 6                                                                                 | 61                                                                                                                                                                                                                                                    | 0                                                                                 | ~201                                                                                                                                                                    | 6                                                                                   | ~130                                                                                | ~110                                                                                | ~169                                                                                |                                                                                     |
| Queue Length 95th (ft)                                     | #150                                                                              | 82                                                                                                                                                                                                                                                    | 7                                                                                 | m29                                                                               | 153                                                                                                                                                                                                                                                   | m1                                                                                | #293                                                                                                                                                                    | 23                                                                                  | #284                                                                                | #226                                                                                | #307                                                                                |                                                                                     |
| Internal Link Dist (ft)                                    |                                                                                   | 2474                                                                                                                                                                                                                                                  |                                                                                   |                                                                                   | 750                                                                                                                                                                                                                                                   |                                                                                   |                                                                                                                                                                         | 6246                                                                                |                                                                                     |                                                                                     | 419                                                                                 |                                                                                     |
| Turn Bay Length (ft)                                       | 300                                                                               |                                                                                                                                                                                                                                                       | 400                                                                               | 315                                                                               |                                                                                                                                                                                                                                                       | 370                                                                               | 150                                                                                                                                                                     |                                                                                     | 150                                                                                 | 50                                                                                  |                                                                                     |                                                                                     |
| Base Capacity (vph)                                        | 62                                                                                | 4364                                                                                                                                                                                                                                                  | 1383                                                                              | 203                                                                               | 4364                                                                                                                                                                                                                                                  | 1363                                                                              | 120                                                                                                                                                                     | 93                                                                                  | 153                                                                                 | 70                                                                                  | 85                                                                                  |                                                                                     |
| Starvation Cap Reductn                                     | 0                                                                                 | 0                                                                                                                                                                                                                                                     | 0                                                                                 | 0                                                                                 | 0                                                                                                                                                                                                                                                     | 0                                                                                 | 0                                                                                                                                                                       | 0                                                                                   | 0                                                                                   | 0                                                                                   | 0                                                                                   |                                                                                     |
| Spillback Cap Reductn                                      | 0                                                                                 | 0                                                                                                                                                                                                                                                     | 0                                                                                 | 0                                                                                 | 0                                                                                                                                                                                                                                                     | 0                                                                                 | 0                                                                                                                                                                       | 0                                                                                   | 0                                                                                   | 0                                                                                   | 0                                                                                   |                                                                                     |
| Storage Cap Reductn                                        | 0                                                                                 | 0                                                                                                                                                                                                                                                     | 0                                                                                 | 0                                                                                 | 0                                                                                                                                                                                                                                                     | 0                                                                                 | 0                                                                                                                                                                       | 0                                                                                   | 0                                                                                   | 0                                                                                   | 0                                                                                   |                                                                                     |
| Reduced v/c Ratio                                          | 1.40                                                                              | 0.39                                                                                                                                                                                                                                                  | 0.13                                                                              | 0.69                                                                              | 0.76                                                                                                                                                                                                                                                  | 0.03                                                                              | 2.52                                                                                                                                                                    | 0.09                                                                                | 1.27                                                                                | 1.47                                                                                | 1.75                                                                                |                                                                                     |
| Intersection Summary                                       |                                                                                   |                                                                                                                                                                                                                                                       |                                                                                   |                                                                                   |                                                                                                                                                                                                                                                       |                                                                                   |                                                                                                                                                                         |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Cycle Length: 120                                          |                                                                                   |                                                                                                                                                                                                                                                       |                                                                                   |                                                                                   |                                                                                                                                                                                                                                                       |                                                                                   |                                                                                                                                                                         |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Actuated Cycle Length: 120                                 |                                                                                   |                                                                                                                                                                                                                                                       |                                                                                   |                                                                                   |                                                                                                                                                                                                                                                       |                                                                                   |                                                                                                                                                                         |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Offset: 0 (0%), Referenced to phase 2:EBTL, Start of Green |                                                                                   |                                                                                                                                                                                                                                                       |                                                                                   |                                                                                   |                                                                                                                                                                                                                                                       |                                                                                   |                                                                                                                                                                         |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Natural Cycle: 70                                          |                                                                                   |                                                                                                                                                                                                                                                       |                                                                                   |                                                                                   |                                                                                                                                                                                                                                                       |                                                                                   |                                                                                                                                                                         |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Control Type: Actuated-Coordinated                         |                                                                                   |                                                                                                                                                                                                                                                       |                                                                                   |                                                                                   |                                                                                                                                                                                                                                                       |                                                                                   |                                                                                                                                                                         |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |

Timings  
1: Mohawk Road & E Woodmen Road

Background Traffic Conditions  
AM Peak Traffic Hour - 2045

|                                                                   |                        |
|-------------------------------------------------------------------|------------------------|
| Maximum v/c Ratio: 2.52                                           |                        |
| Intersection Signal Delay (s/veh): 62.9                           | Intersection LOS: E    |
| Intersection Capacity Utilization 98.0%                           | ICU Level of Service F |
| Analysis Period (min) 15                                          |                        |
| ~ Volume exceeds capacity, queue is theoretically infinite.       |                        |
| Queue shown is maximum after two cycles.                          |                        |
| # 95th percentile volume exceeds capacity, queue may be longer.   |                        |
| Queue shown is maximum after two cycles.                          |                        |
| m Volume for 95th percentile queue is metered by upstream signal. |                        |

Splits and Phases: 1: Mohawk Road & E Woodmen Road



# Timings

## 2: Banning Lewis Parkway & E Woodmen Road

# Background Traffic Conditions

## AM Peak Traffic Hour - 2045

|                         |  |  |  |  |  |  |  |  |  |  |  |  |
|-------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Lane Group              | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | WBR                                                                               | NBL                                                                                 | NBT                                                                                 | NBR                                                                                 | SBL                                                                                 | SBT                                                                                 | SBR                                                                                 |
| Lane Configurations     |  |  |  |  |  |  |  |  |  |  |  |  |
| Traffic Volume (vph)    | 16                                                                                | 1398                                                                              | 183                                                                               | 248                                                                               | 2761                                                                              | 3                                                                                 | 324                                                                                 | 4                                                                                   | 201                                                                                 | 5                                                                                   | 3                                                                                   | 5                                                                                   |
| Future Volume (vph)     | 16                                                                                | 1398                                                                              | 183                                                                               | 248                                                                               | 2761                                                                              | 3                                                                                 | 324                                                                                 | 4                                                                                   | 201                                                                                 | 5                                                                                   | 3                                                                                   | 5                                                                                   |
| Satd. Flow (prot)       | 3433                                                                              | 5085                                                                              | 1583                                                                              | 3433                                                                              | 5085                                                                              | 1583                                                                              | 3433                                                                                | 5085                                                                                | 1583                                                                                | 3433                                                                                | 5085                                                                                | 1583                                                                                |
| Flt Permitted           | 0.950                                                                             |                                                                                   |                                                                                   | 0.950                                                                             |                                                                                   |                                                                                   | 0.950                                                                               |                                                                                     |                                                                                     | 0.950                                                                               |                                                                                     |                                                                                     |
| Satd. Flow (perm)       | 3433                                                                              | 5085                                                                              | 1583                                                                              | 3433                                                                              | 5085                                                                              | 1583                                                                              | 3433                                                                                | 5085                                                                                | 1583                                                                                | 3433                                                                                | 5085                                                                                | 1583                                                                                |
| Satd. Flow (RTOR)       |                                                                                   |                                                                                   | 300                                                                               |                                                                                   |                                                                                   | 300                                                                               |                                                                                     |                                                                                     | 300                                                                                 |                                                                                     |                                                                                     | 300                                                                                 |
| Lane Group Flow (vph)   | 17                                                                                | 1520                                                                              | 199                                                                               | 270                                                                               | 3001                                                                              | 3                                                                                 | 352                                                                                 | 4                                                                                   | 218                                                                                 | 5                                                                                   | 3                                                                                   | 5                                                                                   |
| Turn Type               | Prot                                                                              | NA                                                                                | Free                                                                              | Prot                                                                              | NA                                                                                | Free                                                                              | Prot                                                                                | NA                                                                                  | Free                                                                                | Prot                                                                                | NA                                                                                  | Free                                                                                |
| Protected Phases        | 5                                                                                 | 2                                                                                 |                                                                                   | 1                                                                                 | 6                                                                                 |                                                                                   | 7                                                                                   | 4                                                                                   |                                                                                     | 3                                                                                   | 8                                                                                   |                                                                                     |
| Permitted Phases        |                                                                                   |                                                                                   | Free                                                                              |                                                                                   |                                                                                   | Free                                                                              |                                                                                     |                                                                                     | Free                                                                                |                                                                                     |                                                                                     | Free                                                                                |
| Detector Phase          | 5                                                                                 | 2                                                                                 |                                                                                   | 1                                                                                 | 6                                                                                 |                                                                                   | 7                                                                                   | 4                                                                                   |                                                                                     | 3                                                                                   | 8                                                                                   |                                                                                     |
| Switch Phase            |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Minimum Initial (s)     | 5.0                                                                               | 5.0                                                                               |                                                                                   | 5.0                                                                               | 5.0                                                                               |                                                                                   | 5.0                                                                                 | 5.0                                                                                 |                                                                                     | 5.0                                                                                 | 5.0                                                                                 |                                                                                     |
| Minimum Split (s)       | 11.0                                                                              | 11.0                                                                              |                                                                                   | 11.0                                                                              | 11.0                                                                              |                                                                                   | 11.0                                                                                | 11.0                                                                                |                                                                                     | 11.0                                                                                | 11.0                                                                                |                                                                                     |
| Total Split (s)         | 11.0                                                                              | 69.0                                                                              |                                                                                   | 21.0                                                                              | 79.0                                                                              |                                                                                   | 19.0                                                                                | 19.0                                                                                |                                                                                     | 11.0                                                                                | 11.0                                                                                |                                                                                     |
| Total Split (%)         | 9.2%                                                                              | 57.5%                                                                             |                                                                                   | 17.5%                                                                             | 65.8%                                                                             |                                                                                   | 15.8%                                                                               | 15.8%                                                                               |                                                                                     | 9.2%                                                                                | 9.2%                                                                                |                                                                                     |
| Yellow Time (s)         | 4.0                                                                               | 4.0                                                                               |                                                                                   | 4.0                                                                               | 4.0                                                                               |                                                                                   | 4.0                                                                                 | 4.0                                                                                 |                                                                                     | 4.0                                                                                 | 4.0                                                                                 |                                                                                     |
| All-Red Time (s)        | 2.0                                                                               | 2.0                                                                               |                                                                                   | 2.0                                                                               | 2.0                                                                               |                                                                                   | 2.0                                                                                 | 2.0                                                                                 |                                                                                     | 2.0                                                                                 | 2.0                                                                                 |                                                                                     |
| Lost Time Adjust (s)    | 0.0                                                                               | 0.0                                                                               |                                                                                   | 0.0                                                                               | 0.0                                                                               |                                                                                   | 0.0                                                                                 | 0.0                                                                                 |                                                                                     | 0.0                                                                                 | 0.0                                                                                 |                                                                                     |
| Total Lost Time (s)     | 6.0                                                                               | 6.0                                                                               |                                                                                   | 6.0                                                                               | 6.0                                                                               |                                                                                   | 6.0                                                                                 | 6.0                                                                                 |                                                                                     | 6.0                                                                                 | 6.0                                                                                 |                                                                                     |
| Lead/Lag                | Lead                                                                              | Lag                                                                               |                                                                                   | Lead                                                                              | Lag                                                                               |                                                                                   | Lead                                                                                | Lag                                                                                 |                                                                                     | Lead                                                                                | Lag                                                                                 |                                                                                     |
| Lead-Lag Optimize?      | Yes                                                                               | Yes                                                                               |                                                                                   | Yes                                                                               | Yes                                                                               |                                                                                   | Yes                                                                                 | Yes                                                                                 |                                                                                     | Yes                                                                                 | Yes                                                                                 |                                                                                     |
| Recall Mode             | None                                                                              | C-Max                                                                             |                                                                                   | None                                                                              | C-Max                                                                             |                                                                                   | None                                                                                | None                                                                                |                                                                                     | None                                                                                | None                                                                                |                                                                                     |
| Act Effect Green (s)    | 5.7                                                                               | 72.9                                                                              | 120.0                                                                             | 13.9                                                                              | 88.1                                                                              | 120.0                                                                             | 13.0                                                                                | 13.0                                                                                | 120.0                                                                               | 5.0                                                                                 | 5.0                                                                                 | 120.0                                                                               |
| Actuated g/C Ratio      | 0.05                                                                              | 0.61                                                                              | 1.00                                                                              | 0.12                                                                              | 0.73                                                                              | 1.00                                                                              | 0.11                                                                                | 0.11                                                                                | 1.00                                                                                | 0.04                                                                                | 0.04                                                                                | 1.00                                                                                |
| v/c Ratio               | 0.10                                                                              | 0.49                                                                              | 0.13                                                                              | 0.68                                                                              | 0.80                                                                              | 0.00                                                                              | 0.95                                                                                | 0.01                                                                                | 0.14                                                                                | 0.03                                                                                | 0.01                                                                                | 0.00                                                                                |
| Control Delay (s/veh)   | 56.4                                                                              | 12.6                                                                              | 0.1                                                                               | 46.8                                                                              | 16.8                                                                              | 0.0                                                                               | 88.8                                                                                | 47.8                                                                                | 0.2                                                                                 | 55.8                                                                                | 55.3                                                                                | 0.0                                                                                 |
| 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                                                                                 |
| Total Delay (s/veh)     | 56.4                                                                              | 12.6                                                                              | 0.1                                                                               | 46.8                                                                              | 16.8                                                                              | 0.0                                                                               | 88.8                                                                                | 47.8                                                                                | 0.2                                                                                 | 55.8                                                                                | 55.3                                                                                | 0.0                                                                                 |
| LOS                     | E                                                                                 | B                                                                                 | A                                                                                 | D                                                                                 | B                                                                                 | A                                                                                 | F                                                                                   | D                                                                                   | A                                                                                   | E                                                                                   | E                                                                                   | A                                                                                   |
| Approach Delay (s/veh)  |                                                                                   | 11.6                                                                              |                                                                                   |                                                                                   | 19.3                                                                              |                                                                                   |                                                                                     | 54.9                                                                                |                                                                                     |                                                                                     | 34.2                                                                                |                                                                                     |
| Approach LOS            |                                                                                   | B                                                                                 |                                                                                   |                                                                                   | B                                                                                 |                                                                                   |                                                                                     | D                                                                                   |                                                                                     |                                                                                     | C                                                                                   |                                                                                     |
| Queue Length 50th (ft)  | 6                                                                                 | 189                                                                               | 0                                                                                 | 105                                                                               | 455                                                                               | 0                                                                                 | 141                                                                                 | 1                                                                                   | 0                                                                                   | 2                                                                                   | 0                                                                                   | 0                                                                                   |
| Queue Length 95th (ft)  | m15                                                                               | m261                                                                              | m0                                                                                | m89                                                                               | m696                                                                              | m0                                                                                | #235                                                                                | 5                                                                                   | 0                                                                                   | 9                                                                                   | 4                                                                                   | 0                                                                                   |
| Internal Link Dist (ft) |                                                                                   | 712                                                                               |                                                                                   |                                                                                   | 722                                                                               |                                                                                   |                                                                                     | 667                                                                                 |                                                                                     |                                                                                     | 695                                                                                 |                                                                                     |
| Turn Bay Length (ft)    | 285                                                                               |                                                                                   |                                                                                   | 285                                                                               |                                                                                   | 225                                                                               | 185                                                                                 |                                                                                     | 185                                                                                 | 185                                                                                 |                                                                                     | 185                                                                                 |
| Base Capacity (vph)     | 163                                                                               | 3087                                                                              | 1583                                                                              | 436                                                                               | 3734                                                                              | 1583                                                                              | 371                                                                                 | 550                                                                                 | 1583                                                                                | 143                                                                                 | 211                                                                                 | 1583                                                                                |
| Starvation Cap Reductn  | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                   | 0                                                                                   | 0                                                                                   | 0                                                                                   | 0                                                                                   | 0                                                                                   |
| Spillback Cap Reductn   | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                   | 0                                                                                   | 0                                                                                   | 0                                                                                   | 0                                                                                   | 0                                                                                   |
| Storage Cap Reductn     | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                   | 0                                                                                   | 0                                                                                   | 0                                                                                   | 0                                                                                   | 0                                                                                   |
| Reduced v/c Ratio       | 0.10                                                                              | 0.49                                                                              | 0.13                                                                              | 0.62                                                                              | 0.80                                                                              | 0.00                                                                              | 0.95                                                                                | 0.01                                                                                | 0.14                                                                                | 0.03                                                                                | 0.01                                                                                | 0.00                                                                                |

### Intersection Summary

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Green

Natural Cycle: 100

Control Type: Actuated-Coordinated

Timings  
2: Banning Lewis Parkway & E Woodmen Road

Background Traffic Conditions  
AM Peak Traffic Hour - 2045

Maximum v/c Ratio: 0.95

Intersection Signal Delay (s/veh): 20.6

Intersection LOS: C

Intersection Capacity Utilization 88.4%

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.

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 2: Banning Lewis Parkway & E Woodmen Road



# Timings

## 3: Golden Sage Road & E Woodmen Road

# Background Traffic Conditions

## AM Peak Traffic Hour - 2045

|                         |  |  |  |  |  |  |  |  |  |  |  |  |
|-------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Lane Group              | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | WBR                                                                               | NBL                                                                                 | NBT                                                                                 | NBR                                                                                 | SBL                                                                                 | SBT                                                                                 | SBR                                                                                 |
| Lane Configurations     |  |  |  |  |  |  |   |  |  |  |  |  |
| Traffic Volume (vph)    | 178                                                                               | 1348                                                                              | 74                                                                                | 21                                                                                | 2367                                                                              | 5                                                                                 | 175                                                                                 | 3                                                                                   | 13                                                                                  | 21                                                                                  | 12                                                                                  | 458                                                                                 |
| Future Volume (vph)     | 178                                                                               | 1348                                                                              | 74                                                                                | 21                                                                                | 2367                                                                              | 5                                                                                 | 175                                                                                 | 3                                                                                   | 13                                                                                  | 21                                                                                  | 12                                                                                  | 458                                                                                 |
| Satd. Flow (prot)       | 1770                                                                              | 5085                                                                              | 1583                                                                              | 1770                                                                              | 5085                                                                              | 1583                                                                              | 1770                                                                                | 1863                                                                                | 1583                                                                                | 1770                                                                                | 1591                                                                                | 0                                                                                   |
| Flt Permitted           | 0.138                                                                             |                                                                                   |                                                                                   | 0.160                                                                             |                                                                                   |                                                                                   | 0.308                                                                               |                                                                                     |                                                                                     | 0.756                                                                               |                                                                                     |                                                                                     |
| Satd. Flow (perm)       | 257                                                                               | 5085                                                                              | 1583                                                                              | 298                                                                               | 5085                                                                              | 1583                                                                              | 574                                                                                 | 1863                                                                                | 1583                                                                                | 1408                                                                                | 1591                                                                                | 0                                                                                   |
| Satd. Flow (RTOR)       |                                                                                   |                                                                                   | 145                                                                               |                                                                                   |                                                                                   | 145                                                                               |                                                                                     |                                                                                     | 255                                                                                 |                                                                                     | 182                                                                                 |                                                                                     |
| Lane Group Flow (vph)   | 193                                                                               | 1465                                                                              | 80                                                                                | 23                                                                                | 2573                                                                              | 5                                                                                 | 190                                                                                 | 3                                                                                   | 14                                                                                  | 23                                                                                  | 511                                                                                 | 0                                                                                   |
| Turn Type               | pm+pt                                                                             | NA                                                                                | Perm                                                                              | pm+pt                                                                             | NA                                                                                | Perm                                                                              | Perm                                                                                | NA                                                                                  | Free                                                                                | Perm                                                                                | NA                                                                                  |                                                                                     |
| Protected Phases        | 5                                                                                 | 2                                                                                 |                                                                                   | 1                                                                                 | 6                                                                                 |                                                                                   |                                                                                     | 4                                                                                   |                                                                                     |                                                                                     | 8                                                                                   |                                                                                     |
| Permitted Phases        | 2                                                                                 |                                                                                   | 2                                                                                 | 6                                                                                 |                                                                                   | 6                                                                                 | 4                                                                                   |                                                                                     | Free                                                                                | 8                                                                                   |                                                                                     |                                                                                     |
| Detector Phase          | 5                                                                                 | 2                                                                                 | 2                                                                                 | 1                                                                                 | 6                                                                                 | 6                                                                                 | 4                                                                                   | 4                                                                                   |                                                                                     | 8                                                                                   | 8                                                                                   |                                                                                     |
| Switch Phase            |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Minimum Initial (s)     | 5.0                                                                               | 5.0                                                                               | 5.0                                                                               | 5.0                                                                               | 5.0                                                                               | 5.0                                                                               | 5.0                                                                                 | 5.0                                                                                 |                                                                                     | 5.0                                                                                 | 5.0                                                                                 |                                                                                     |
| Minimum Split (s)       | 11.0                                                                              | 11.0                                                                              | 11.0                                                                              | 11.0                                                                              | 11.0                                                                              | 11.0                                                                              | 10.0                                                                                | 10.0                                                                                |                                                                                     | 10.0                                                                                | 10.0                                                                                |                                                                                     |
| Total Split (s)         | 11.0                                                                              | 31.0                                                                              | 31.0                                                                              | 11.0                                                                              | 31.0                                                                              | 31.0                                                                              | 18.0                                                                                | 18.0                                                                                |                                                                                     | 18.0                                                                                | 18.0                                                                                |                                                                                     |
| Total Split (%)         | 18.3%                                                                             | 51.7%                                                                             | 51.7%                                                                             | 18.3%                                                                             | 51.7%                                                                             | 51.7%                                                                             | 30.0%                                                                               | 30.0%                                                                               |                                                                                     | 30.0%                                                                               | 30.0%                                                                               |                                                                                     |
| Yellow Time (s)         | 4.0                                                                               | 4.0                                                                               | 4.0                                                                               | 4.0                                                                               | 4.0                                                                               | 4.0                                                                               | 3.0                                                                                 | 3.0                                                                                 |                                                                                     | 3.0                                                                                 | 3.0                                                                                 |                                                                                     |
| All-Red Time (s)        | 2.0                                                                               | 2.0                                                                               | 2.0                                                                               | 2.0                                                                               | 2.0                                                                               | 2.0                                                                               | 2.0                                                                                 | 2.0                                                                                 |                                                                                     | 2.0                                                                                 | 2.0                                                                                 |                                                                                     |
| Lost Time Adjust (s)    | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               | 0.0                                                                                 | 0.0                                                                                 |                                                                                     | 0.0                                                                                 | 0.0                                                                                 |                                                                                     |
| Total Lost Time (s)     | 6.0                                                                               | 6.0                                                                               | 6.0                                                                               | 6.0                                                                               | 6.0                                                                               | 6.0                                                                               | 5.0                                                                                 | 5.0                                                                                 |                                                                                     | 5.0                                                                                 | 5.0                                                                                 |                                                                                     |
| Lead/Lag                | Lead                                                                              | Lag                                                                               | Lag                                                                               | Lead                                                                              | Lag                                                                               | Lag                                                                               |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Lead-Lag Optimize?      | Yes                                                                               | Yes                                                                               | Yes                                                                               | Yes                                                                               | Yes                                                                               | Yes                                                                               |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Recall Mode             | None                                                                              | C-Max                                                                             | C-Max                                                                             | None                                                                              | C-Max                                                                             | C-Max                                                                             | None                                                                                | None                                                                                |                                                                                     | None                                                                                | None                                                                                |                                                                                     |
| Act Effect Green (s)    | 34.8                                                                              | 33.8                                                                              | 33.8                                                                              | 30.0                                                                              | 25.0                                                                              | 25.0                                                                              | 13.0                                                                                | 13.0                                                                                | 60.0                                                                                | 13.0                                                                                | 13.0                                                                                |                                                                                     |
| Actuated g/C Ratio      | 0.58                                                                              | 0.56                                                                              | 0.56                                                                              | 0.50                                                                              | 0.42                                                                              | 0.42                                                                              | 0.22                                                                                | 0.22                                                                                | 1.00                                                                                | 0.22                                                                                | 0.22                                                                                |                                                                                     |
| v/c Ratio               | 0.70                                                                              | 0.51                                                                              | 0.08                                                                              | 0.08                                                                              | 1.21                                                                              | 0.01                                                                              | 1.53                                                                                | 0.01                                                                                | 0.01                                                                                | 0.08                                                                                | 1.05                                                                                |                                                                                     |
| Control Delay (s/veh)   | 35.0                                                                              | 7.4                                                                               | 1.8                                                                               | 5.9                                                                               | 121.9                                                                             | 0.0                                                                               | 301.1                                                                               | 18.7                                                                                | 0.0                                                                                 | 19.6                                                                                | 73.7                                                                                |                                                                                     |
| Queue Delay             | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               | 0.0                                                                                 | 0.0                                                                                 | 0.0                                                                                 | 0.0                                                                                 | 0.0                                                                                 |                                                                                     |
| Total Delay (s/veh)     | 35.0                                                                              | 7.4                                                                               | 1.8                                                                               | 5.9                                                                               | 121.9                                                                             | 0.0                                                                               | 301.1                                                                               | 18.7                                                                                | 0.0                                                                                 | 19.6                                                                                | 73.7                                                                                |                                                                                     |
| LOS                     | C                                                                                 | A                                                                                 | A                                                                                 | A                                                                                 | F                                                                                 | A                                                                                 | F                                                                                   | B                                                                                   | A                                                                                   | B                                                                                   | E                                                                                   |                                                                                     |
| Approach Delay (s/veh)  |                                                                                   | 10.2                                                                              |                                                                                   |                                                                                   | 120.7                                                                             |                                                                                   |                                                                                     | 276.6                                                                               |                                                                                     |                                                                                     | 71.4                                                                                |                                                                                     |
| Approach LOS            |                                                                                   | B                                                                                 |                                                                                   |                                                                                   | F                                                                                 |                                                                                   |                                                                                     | F                                                                                   |                                                                                     |                                                                                     | E                                                                                   |                                                                                     |
| Queue Length 50th (ft)  | 64                                                                                | 87                                                                                | 0                                                                                 | 3                                                                                 | ~431                                                                              | 0                                                                                 | ~100                                                                                | 1                                                                                   | 0                                                                                   | 7                                                                                   | ~149                                                                                |                                                                                     |
| Queue Length 95th (ft)  | #158                                                                              | 314                                                                               | 11                                                                                | 10                                                                                | #524                                                                              | 0                                                                                 | #208                                                                                | 7                                                                                   | 0                                                                                   | 23                                                                                  | #317                                                                                |                                                                                     |
| Internal Link Dist (ft) |                                                                                   | 600                                                                               |                                                                                   |                                                                                   | 542                                                                               |                                                                                   |                                                                                     | 565                                                                                 |                                                                                     |                                                                                     | 379                                                                                 |                                                                                     |
| Turn Bay Length (ft)    | 530                                                                               |                                                                                   | 380                                                                               | 330                                                                               |                                                                                   | 360                                                                               | 125                                                                                 |                                                                                     | 195                                                                                 | 110                                                                                 |                                                                                     |                                                                                     |
| Base Capacity (vph)     | 275                                                                               | 2864                                                                              | 954                                                                               | 271                                                                               | 2118                                                                              | 744                                                                               | 124                                                                                 | 403                                                                                 | 1583                                                                                | 305                                                                                 | 487                                                                                 |                                                                                     |
| Starvation Cap Reductn  | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                   | 0                                                                                   | 0                                                                                   | 0                                                                                   | 0                                                                                   |                                                                                     |
| Spillback Cap Reductn   | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                   | 0                                                                                   | 0                                                                                   | 0                                                                                   | 0                                                                                   |                                                                                     |
| Storage Cap Reductn     | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                   | 0                                                                                   | 0                                                                                   | 0                                                                                   | 0                                                                                   |                                                                                     |
| Reduced v/c Ratio       | 0.70                                                                              | 0.51                                                                              | 0.08                                                                              | 0.08                                                                              | 1.21                                                                              | 0.01                                                                              | 1.53                                                                                | 0.01                                                                                | 0.01                                                                                | 0.08                                                                                | 1.05                                                                                |                                                                                     |

### Intersection Summary

Cycle Length: 60

Actuated Cycle Length: 60

Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green

Natural Cycle: 55

Control Type: Actuated-Coordinated

Timings  
3: Golden Sage Road & E Woodmen Road

Background Traffic Conditions  
AM Peak Traffic Hour - 2045

Maximum v/c Ratio: 1.53

Intersection Signal Delay (s/veh): 84.0

Intersection LOS: F

Intersection Capacity Utilization 112.6%

ICU Level of Service H

Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

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

Queue shown is maximum after two cycles.

Splits and Phases: 3: Golden Sage Road & E Woodmen Road



HCM Unsignalized Intersection Capacity Analysis  
4: Golden Sage Road & Woodmen Frontage Road

Background Traffic Conditions  
AM Peak Traffic Hour - 2045

|                                   |  |  |  |  |  |  |
|-----------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|
| Movement                          | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | NBL                                                                               | NBR                                                                               |
| Lane Configurations               |  |                                                                                   |                                                                                   |  |  |                                                                                   |
| Traffic Volume (veh/h)            | 5                                                                                 | 10                                                                                | 480                                                                               | 5                                                                                 | 180                                                                               | 5                                                                                 |
| Future Volume (Veh/h)             | 5                                                                                 | 10                                                                                | 480                                                                               | 5                                                                                 | 180                                                                               | 5                                                                                 |
| Sign Control                      | Stop                                                                              |                                                                                   |                                                                                   | Stop                                                                              | Free                                                                              |                                                                                   |
| Grade                             | 0%                                                                                |                                                                                   |                                                                                   | 0%                                                                                | 0%                                                                                |                                                                                   |
| Peak Hour Factor                  | 0.92                                                                              | 0.92                                                                              | 0.92                                                                              | 0.92                                                                              | 0.92                                                                              | 0.92                                                                              |
| Hourly flow rate (vph)            | 5                                                                                 | 11                                                                                | 522                                                                               | 5                                                                                 | 196                                                                               | 5                                                                                 |
| Pedestrians                       |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Lane Width (ft)                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Walking Speed (ft/s)              |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Percent Blockage                  |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Right turn flare (veh)            |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Median type                       |                                                                                   |                                                                                   |                                                                                   |                                                                                   | None                                                                              |                                                                                   |
| Median storage (veh)              |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Upstream signal (ft)              |                                                                                   |                                                                                   |                                                                                   |                                                                                   | 459                                                                               |                                                                                   |
| pX, platoon unblocked             |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| vC, conflicting volume            | 397                                                                               | 0                                                                                 | 408                                                                               | 395                                                                               | 0                                                                                 |                                                                                   |
| vC1, stage 1 conf vol             |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| vC2, stage 2 conf vol             |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| vCu, unblocked vol                | 397                                                                               | 0                                                                                 | 408                                                                               | 395                                                                               | 0                                                                                 |                                                                                   |
| tC, single (s)                    | 6.5                                                                               | 6.2                                                                               | 7.1                                                                               | 6.5                                                                               | 4.1                                                                               |                                                                                   |
| tC, 2 stage (s)                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| tF (s)                            | 4.0                                                                               | 3.3                                                                               | 3.5                                                                               | 4.0                                                                               | 2.2                                                                               |                                                                                   |
| p0 queue free %                   | 99                                                                                | 99                                                                                | 0                                                                                 | 99                                                                                | 88                                                                                |                                                                                   |
| cM capacity (veh/h)               | 475                                                                               | 1085                                                                              | 493                                                                               | 477                                                                               | 1623                                                                              |                                                                                   |
| Direction, Lane #                 | EB 1                                                                              | WB 1                                                                              | NB 1                                                                              |                                                                                   |                                                                                   |                                                                                   |
| Volume Total                      | 16                                                                                | 527                                                                               | 201                                                                               |                                                                                   |                                                                                   |                                                                                   |
| Volume Left                       | 0                                                                                 | 522                                                                               | 196                                                                               |                                                                                   |                                                                                   |                                                                                   |
| Volume Right                      | 11                                                                                | 0                                                                                 | 5                                                                                 |                                                                                   |                                                                                   |                                                                                   |
| cSH                               | 774                                                                               | 493                                                                               | 1623                                                                              |                                                                                   |                                                                                   |                                                                                   |
| Volume to Capacity                | 0.02                                                                              | 1.07                                                                              | 0.12                                                                              |                                                                                   |                                                                                   |                                                                                   |
| Queue Length 95th (ft)            | 2                                                                                 | 408                                                                               | 10                                                                                |                                                                                   |                                                                                   |                                                                                   |
| Control Delay (s/veh)             | 9.7                                                                               | 88.9                                                                              | 7.4                                                                               |                                                                                   |                                                                                   |                                                                                   |
| Lane LOS                          | A                                                                                 | F                                                                                 | A                                                                                 |                                                                                   |                                                                                   |                                                                                   |
| Approach Delay (s/veh)            | 9.7                                                                               | 88.9                                                                              | 7.4                                                                               |                                                                                   |                                                                                   |                                                                                   |
| Approach LOS                      | A                                                                                 | F                                                                                 |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Intersection Summary              |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Average Delay                     |                                                                                   | 65.2                                                                              |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Intersection Capacity Utilization |                                                                                   | 50.5%                                                                             |                                                                                   | ICU Level of Service                                                              |                                                                                   | A                                                                                 |
| Analysis Period (min)             |                                                                                   | 15                                                                                |                                                                                   |                                                                                   |                                                                                   |                                                                                   |

| Intersection             |      |      |      |      |      |      |      |      |      |      |      |      |
|--------------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Int Delay, s/veh         | 2.9  |      |      |      |      |      |      |      |      |      |      |      |
| Movement                 | EBL  | EBT  | EBR  | WBL  | WBT  | WBR  | NBL  | NBT  | NBR  | SBL  | SBT  | SBR  |
| Lane Configurations      |      | ↕    |      |      | ↕    |      |      | ↕    |      |      | ↕    |      |
| Traffic Vol, veh/h       | 1    | 7    | 15   | 25   | 4    | 5    | 10   | 46   | 45   | 3    | 51   | 5    |
| Future Vol, veh/h        | 1    | 7    | 15   | 25   | 4    | 5    | 10   | 46   | 45   | 3    | 51   | 5    |
| Conflicting Peds, #/hr   | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Sign Control             | Stop | Stop | Stop | Stop | Stop | Stop | Free | Free | Free | Free | Free | Free |
| RT Channelized           | -    | -    | None | -    | -    | None | -    | -    | None | -    | -    | 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                | 1    | 8    | 16   | 27   | 4    | 5    | 11   | 50   | 49   | 3    | 55   | 5    |

| Major/Minor          | Minor2 |       | Minor1 |       | Major1 |       | Major2 |   |   |       |   |   |
|----------------------|--------|-------|--------|-------|--------|-------|--------|---|---|-------|---|---|
| Conflicting Flow All | 139    | 185   | 58     | 162   | 164    | 74    | 61     | 0 | 0 | 99    | 0 | 0 |
| Stage 1              | 65     | 65    | -      | 96    | 96     | -     | -      | - | - | -     | - | - |
| Stage 2              | 74     | 121   | -      | 66    | 67     | -     | -      | - | - | -     | - | - |
| Critical Hdwy        | 7.12   | 6.52  | 6.22   | 7.12  | 6.52   | 6.22  | 4.12   | - | - | 4.12  | - | - |
| Critical Hdwy Stg 1  | 6.12   | 5.52  | -      | 6.12  | 5.52   | -     | -      | - | - | -     | - | - |
| Critical Hdwy Stg 2  | 6.12   | 5.52  | -      | 6.12  | 5.52   | -     | -      | - | - | -     | - | - |
| Follow-up Hdwy       | 3.518  | 4.018 | 3.318  | 3.518 | 4.018  | 3.318 | 2.218  | - | - | 2.218 | - | - |
| Pot Cap-1 Maneuver   | 832    | 709   | 1008   | 803   | 729    | 987   | 1542   | - | - | 1494  | - | - |
| Stage 1              | 946    | 841   | -      | 910   | 815    | -     | -      | - | - | -     | - | - |
| Stage 2              | 935    | 796   | -      | 945   | 839    | -     | -      | - | - | -     | - | - |
| Platoon blocked, %   |        |       |        |       |        |       |        | - | - |       | - | - |
| Mov Cap-1 Maneuver   | 814    | 702   | 1008   | 774   | 722    | 987   | 1542   | - | - | 1494  | - | - |
| Mov Cap-2 Maneuver   | 814    | 702   | -      | 774   | 722    | -     | -      | - | - | -     | - | - |
| Stage 1              | 944    | 839   | -      | 904   | 809    | -     | -      | - | - | -     | - | - |
| Stage 2              | 918    | 790   | -      | 919   | 837    | -     | -      | - | - | -     | - | - |

| Approach          | EB  |  | WB   |  | NB   |  | SB   |  |
|-------------------|-----|--|------|--|------|--|------|--|
| HCM Ctrl Dly, s/v | 9.2 |  | 9.76 |  | 0.73 |  | 0.38 |  |
| HCM LOS           | A   |  | A    |  |      |  |      |  |

| Minor Lane/Major Mvmt | NBL   | NBT | NBR | EBLn1WBLn1 | SBL   | SBT   | SBR |
|-----------------------|-------|-----|-----|------------|-------|-------|-----|
| Capacity (veh/h)      | 162   | -   | -   | 882        | 792   | 90    | -   |
| HCM Lane V/C Ratio    | 0.007 | -   | -   | 0.028      | 0.047 | 0.002 | -   |
| HCM Ctrl Dly (s/v)    | 7.4   | 0   | -   | 9.2        | 9.8   | 7.4   | 0   |
| HCM Lane LOS          | A     | A   | -   | A          | A     | A     | -   |
| HCM 95th %tile Q(veh) | 0     | -   | -   | 0.1        | 0.1   | 0     | -   |

# Timings

1: Mohawk Road & E Woodmen Road

Background Traffic Conditions

PM Peak Traffic Hour - 2045

|                                                            |  |                                                                                                                                                                      |  |  |                                                                                                                                                                      |  |                                                                                      |  |  |  |  |  |
|------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Lane Group                                                 | EBL                                                                               | EBT                                                                                                                                                                                                                                                   | EBR                                                                               | WBL                                                                               | WBT                                                                                                                                                                                                                                                   | WBR                                                                               | NBL                                                                                                                                                                     | NBT                                                                                 | NBR                                                                                 | SBL                                                                                 | SBT                                                                                 | SBR                                                                                 |
| Lane Configurations                                        |  |    |  |  |    |  |   |  |  |  |  |  |
| Traffic Volume (vph)                                       | 39                                                                                | 2490                                                                                                                                                                                                                                                  | 358                                                                               | 154                                                                               | 2089                                                                                                                                                                                                                                                  | 25                                                                                | 224                                                                                                                                                                     | 16                                                                                  | 137                                                                                 | 95                                                                                  | 16                                                                                  | 105                                                                                 |
| Future Volume (vph)                                        | 39                                                                                | 2490                                                                                                                                                                                                                                                  | 358                                                                               | 154                                                                               | 2089                                                                                                                                                                                                                                                  | 25                                                                                | 224                                                                                                                                                                     | 16                                                                                  | 137                                                                                 | 95                                                                                  | 16                                                                                  | 105                                                                                 |
| Satd. Flow (prot)                                          | 1770                                                                              | 5085                                                                                                                                                                                                                                                  | 1583                                                                              | 1770                                                                              | 5085                                                                                                                                                                                                                                                  | 1583                                                                              | 3433                                                                                                                                                                    | 1863                                                                                | 1583                                                                                | 1770                                                                                | 1619                                                                                | 0                                                                                   |
| Flt Permitted                                              | 0.058                                                                             |                                                                                                                                                                                                                                                       |                                                                                   | 0.043                                                                             |                                                                                                                                                                                                                                                       |                                                                                   | 0.528                                                                                                                                                                   |                                                                                     |                                                                                     | 0.746                                                                               |                                                                                     |                                                                                     |
| Satd. Flow (perm)                                          | 108                                                                               | 5085                                                                                                                                                                                                                                                  | 1583                                                                              | 80                                                                                | 5085                                                                                                                                                                                                                                                  | 1583                                                                              | 1908                                                                                                                                                                    | 1863                                                                                | 1583                                                                                | 1390                                                                                | 1619                                                                                | 0                                                                                   |
| Satd. Flow (RTOR)                                          |                                                                                   |                                                                                                                                                                                                                                                       | 389                                                                               |                                                                                   |                                                                                                                                                                                                                                                       | 27                                                                                |                                                                                                                                                                         |                                                                                     | 27                                                                                  |                                                                                     | 21                                                                                  |                                                                                     |
| Lane Group Flow (vph)                                      | 42                                                                                | 2707                                                                                                                                                                                                                                                  | 389                                                                               | 167                                                                               | 2271                                                                                                                                                                                                                                                  | 27                                                                                | 243                                                                                                                                                                     | 17                                                                                  | 149                                                                                 | 103                                                                                 | 131                                                                                 | 0                                                                                   |
| Turn Type                                                  | Perm                                                                              | NA                                                                                                                                                                                                                                                    | Perm                                                                              | Perm                                                                              | NA                                                                                                                                                                                                                                                    | Perm                                                                              | Perm                                                                                                                                                                    | NA                                                                                  | Perm                                                                                | Perm                                                                                | NA                                                                                  |                                                                                     |
| Protected Phases                                           |                                                                                   | 2                                                                                                                                                                                                                                                     |                                                                                   |                                                                                   | 6                                                                                                                                                                                                                                                     |                                                                                   |                                                                                                                                                                         | 8                                                                                   |                                                                                     |                                                                                     | 4                                                                                   |                                                                                     |
| Permitted Phases                                           | 2                                                                                 |                                                                                                                                                                                                                                                       | 2                                                                                 | 6                                                                                 |                                                                                                                                                                                                                                                       | 6                                                                                 | 8                                                                                                                                                                       |                                                                                     | 8                                                                                   | 4                                                                                   |                                                                                     |                                                                                     |
| Detector Phase                                             | 2                                                                                 | 2                                                                                                                                                                                                                                                     | 2                                                                                 | 6                                                                                 | 6                                                                                                                                                                                                                                                     | 6                                                                                 | 8                                                                                                                                                                       | 8                                                                                   | 8                                                                                   | 4                                                                                   | 4                                                                                   |                                                                                     |
| Switch Phase                                               |                                                                                   |                                                                                                                                                                                                                                                       |                                                                                   |                                                                                   |                                                                                                                                                                                                                                                       |                                                                                   |                                                                                                                                                                         |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Minimum Initial (s)                                        | 5.0                                                                               | 5.0                                                                                                                                                                                                                                                   | 5.0                                                                               | 5.0                                                                               | 5.0                                                                                                                                                                                                                                                   | 5.0                                                                               | 5.0                                                                                                                                                                     | 5.0                                                                                 | 5.0                                                                                 | 5.0                                                                                 | 5.0                                                                                 |                                                                                     |
| Minimum Split (s)                                          | 11.0                                                                              | 11.0                                                                                                                                                                                                                                                  | 11.0                                                                              | 11.0                                                                              | 11.0                                                                                                                                                                                                                                                  | 11.0                                                                              | 10.0                                                                                                                                                                    | 10.0                                                                                | 10.0                                                                                | 10.0                                                                                | 10.0                                                                                |                                                                                     |
| Total Split (s)                                            | 100.0                                                                             | 100.0                                                                                                                                                                                                                                                 | 100.0                                                                             | 100.0                                                                             | 100.0                                                                                                                                                                                                                                                 | 100.0                                                                             | 20.0                                                                                                                                                                    | 20.0                                                                                | 20.0                                                                                | 20.0                                                                                | 20.0                                                                                |                                                                                     |
| Total Split (%)                                            | 83.3%                                                                             | 83.3%                                                                                                                                                                                                                                                 | 83.3%                                                                             | 83.3%                                                                             | 83.3%                                                                                                                                                                                                                                                 | 83.3%                                                                             | 16.7%                                                                                                                                                                   | 16.7%                                                                               | 16.7%                                                                               | 16.7%                                                                               | 16.7%                                                                               |                                                                                     |
| Yellow Time (s)                                            | 4.0                                                                               | 4.0                                                                                                                                                                                                                                                   | 4.0                                                                               | 4.0                                                                               | 4.0                                                                                                                                                                                                                                                   | 4.0                                                                               | 3.0                                                                                                                                                                     | 3.0                                                                                 | 3.0                                                                                 | 3.0                                                                                 | 3.0                                                                                 |                                                                                     |
| All-Red Time (s)                                           | 2.0                                                                               | 2.0                                                                                                                                                                                                                                                   | 2.0                                                                               | 2.0                                                                               | 2.0                                                                                                                                                                                                                                                   | 2.0                                                                               | 2.0                                                                                                                                                                     | 2.0                                                                                 | 2.0                                                                                 | 2.0                                                                                 | 2.0                                                                                 |                                                                                     |
| Lost Time Adjust (s)                                       | 0.0                                                                               | 0.0                                                                                                                                                                                                                                                   | 0.0                                                                               | 0.0                                                                               | 0.0                                                                                                                                                                                                                                                   | 0.0                                                                               | 0.0                                                                                                                                                                     | 0.0                                                                                 | 0.0                                                                                 | 0.0                                                                                 | 0.0                                                                                 |                                                                                     |
| Total Lost Time (s)                                        | 6.0                                                                               | 6.0                                                                                                                                                                                                                                                   | 6.0                                                                               | 6.0                                                                               | 6.0                                                                                                                                                                                                                                                   | 6.0                                                                               | 5.0                                                                                                                                                                     | 5.0                                                                                 | 5.0                                                                                 | 5.0                                                                                 | 5.0                                                                                 |                                                                                     |
| Lead/Lag                                                   |                                                                                   |                                                                                                                                                                                                                                                       |                                                                                   |                                                                                   |                                                                                                                                                                                                                                                       |                                                                                   |                                                                                                                                                                         |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Lead-Lag Optimize?                                         |                                                                                   |                                                                                                                                                                                                                                                       |                                                                                   |                                                                                   |                                                                                                                                                                                                                                                       |                                                                                   |                                                                                                                                                                         |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Recall Mode                                                | C-Max                                                                             | C-Max                                                                                                                                                                                                                                                 | C-Max                                                                             | Max                                                                               | Max                                                                                                                                                                                                                                                   | Max                                                                               | Max                                                                                                                                                                     | Max                                                                                 | Max                                                                                 | Max                                                                                 | Max                                                                                 |                                                                                     |
| Act Effect Green (s)                                       | 94.0                                                                              | 94.0                                                                                                                                                                                                                                                  | 94.0                                                                              | 94.0                                                                              | 94.0                                                                                                                                                                                                                                                  | 94.0                                                                              | 15.0                                                                                                                                                                    | 15.0                                                                                | 15.0                                                                                | 15.0                                                                                | 15.0                                                                                |                                                                                     |
| Actuated g/C Ratio                                         | 0.78                                                                              | 0.78                                                                                                                                                                                                                                                  | 0.78                                                                              | 0.78                                                                              | 0.78                                                                                                                                                                                                                                                  | 0.78                                                                              | 0.13                                                                                                                                                                    | 0.13                                                                                | 0.13                                                                                | 0.13                                                                                | 0.13                                                                                |                                                                                     |
| v/c Ratio                                                  | 0.50                                                                              | 0.68                                                                                                                                                                                                                                                  | 0.29                                                                              | 2.69                                                                              | 0.57                                                                                                                                                                                                                                                  | 0.02                                                                              | 1.02                                                                                                                                                                    | 0.07                                                                                | 0.67                                                                                | 0.60                                                                                | 0.60                                                                                |                                                                                     |
| Control Delay (s/veh)                                      | 28.9                                                                              | 7.1                                                                                                                                                                                                                                                   | 0.9                                                                               | 807.7                                                                             | 2.8                                                                                                                                                                                                                                                   | 1.2                                                                               | 115.7                                                                                                                                                                   | 47.4                                                                                | 56.9                                                                                | 64.8                                                                                | 53.6                                                                                |                                                                                     |
| Queue Delay                                                | 0.0                                                                               | 0.0                                                                                                                                                                                                                                                   | 0.0                                                                               | 0.0                                                                               | 0.0                                                                                                                                                                                                                                                   | 0.0                                                                               | 0.0                                                                                                                                                                     | 0.0                                                                                 | 0.0                                                                                 | 0.0                                                                                 | 0.0                                                                                 |                                                                                     |
| Total Delay (s/veh)                                        | 28.9                                                                              | 7.1                                                                                                                                                                                                                                                   | 0.9                                                                               | 807.7                                                                             | 2.8                                                                                                                                                                                                                                                   | 1.2                                                                               | 115.7                                                                                                                                                                   | 47.4                                                                                | 56.9                                                                                | 64.8                                                                                | 53.6                                                                                |                                                                                     |
| LOS                                                        | C                                                                                 | A                                                                                                                                                                                                                                                     | A                                                                                 | F                                                                                 | A                                                                                                                                                                                                                                                     | A                                                                                 | F                                                                                                                                                                       | D                                                                                   | E                                                                                   | E                                                                                   | D                                                                                   |                                                                                     |
| Approach Delay (s/veh)                                     |                                                                                   | 6.6                                                                                                                                                                                                                                                   |                                                                                   |                                                                                   | 57.3                                                                                                                                                                                                                                                  |                                                                                   |                                                                                                                                                                         | 91.5                                                                                |                                                                                     |                                                                                     | 58.5                                                                                |                                                                                     |
| Approach LOS                                               |                                                                                   | A                                                                                                                                                                                                                                                     |                                                                                   |                                                                                   | E                                                                                                                                                                                                                                                     |                                                                                   |                                                                                                                                                                         | F                                                                                   |                                                                                     |                                                                                     | E                                                                                   |                                                                                     |
| Queue Length 50th (ft)                                     | 10                                                                                | 294                                                                                                                                                                                                                                                   | 0                                                                                 | ~222                                                                              | 41                                                                                                                                                                                                                                                    | 0                                                                                 | ~103                                                                                                                                                                    | 12                                                                                  | 91                                                                                  | 77                                                                                  | 81                                                                                  |                                                                                     |
| Queue Length 95th (ft)                                     | #77                                                                               | 332                                                                                                                                                                                                                                                   | 18                                                                                | m#320                                                                             | 199                                                                                                                                                                                                                                                   | m2                                                                                | #187                                                                                                                                                                    | 35                                                                                  | #178                                                                                | #139                                                                                | 149                                                                                 |                                                                                     |
| Internal Link Dist (ft)                                    |                                                                                   | 2474                                                                                                                                                                                                                                                  |                                                                                   |                                                                                   | 750                                                                                                                                                                                                                                                   |                                                                                   |                                                                                                                                                                         | 6246                                                                                |                                                                                     |                                                                                     | 419                                                                                 |                                                                                     |
| Turn Bay Length (ft)                                       | 300                                                                               |                                                                                                                                                                                                                                                       | 400                                                                               | 315                                                                               |                                                                                                                                                                                                                                                       | 370                                                                               | 150                                                                                                                                                                     |                                                                                     | 150                                                                                 | 50                                                                                  |                                                                                     |                                                                                     |
| Base Capacity (vph)                                        | 84                                                                                | 3983                                                                                                                                                                                                                                                  | 1324                                                                              | 62                                                                                | 3983                                                                                                                                                                                                                                                  | 1245                                                                              | 238                                                                                                                                                                     | 232                                                                                 | 221                                                                                 | 173                                                                                 | 220                                                                                 |                                                                                     |
| Starvation Cap Reductn                                     | 0                                                                                 | 0                                                                                                                                                                                                                                                     | 0                                                                                 | 0                                                                                 | 0                                                                                                                                                                                                                                                     | 0                                                                                 | 0                                                                                                                                                                       | 0                                                                                   | 0                                                                                   | 0                                                                                   | 0                                                                                   |                                                                                     |
| Spillback Cap Reductn                                      | 0                                                                                 | 0                                                                                                                                                                                                                                                     | 0                                                                                 | 0                                                                                 | 0                                                                                                                                                                                                                                                     | 0                                                                                 | 0                                                                                                                                                                       | 0                                                                                   | 0                                                                                   | 0                                                                                   | 0                                                                                   |                                                                                     |
| Storage Cap Reductn                                        | 0                                                                                 | 0                                                                                                                                                                                                                                                     | 0                                                                                 | 0                                                                                 | 0                                                                                                                                                                                                                                                     | 0                                                                                 | 0                                                                                                                                                                       | 0                                                                                   | 0                                                                                   | 0                                                                                   | 0                                                                                   |                                                                                     |
| Reduced v/c Ratio                                          | 0.50                                                                              | 0.68                                                                                                                                                                                                                                                  | 0.29                                                                              | 2.69                                                                              | 0.57                                                                                                                                                                                                                                                  | 0.02                                                                              | 1.02                                                                                                                                                                    | 0.07                                                                                | 0.67                                                                                | 0.60                                                                                | 0.60                                                                                |                                                                                     |
| Intersection Summary                                       |                                                                                   |                                                                                                                                                                                                                                                       |                                                                                   |                                                                                   |                                                                                                                                                                                                                                                       |                                                                                   |                                                                                                                                                                         |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Cycle Length: 120                                          |                                                                                   |                                                                                                                                                                                                                                                       |                                                                                   |                                                                                   |                                                                                                                                                                                                                                                       |                                                                                   |                                                                                                                                                                         |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Actuated Cycle Length: 120                                 |                                                                                   |                                                                                                                                                                                                                                                       |                                                                                   |                                                                                   |                                                                                                                                                                                                                                                       |                                                                                   |                                                                                                                                                                         |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Offset: 0 (0%), Referenced to phase 2:EBTL, Start of Green |                                                                                   |                                                                                                                                                                                                                                                       |                                                                                   |                                                                                   |                                                                                                                                                                                                                                                       |                                                                                   |                                                                                                                                                                         |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Natural Cycle: 45                                          |                                                                                   |                                                                                                                                                                                                                                                       |                                                                                   |                                                                                   |                                                                                                                                                                                                                                                       |                                                                                   |                                                                                                                                                                         |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Control Type: Actuated-Coordinated                         |                                                                                   |                                                                                                                                                                                                                                                       |                                                                                   |                                                                                   |                                                                                                                                                                                                                                                       |                                                                                   |                                                                                                                                                                         |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |

|                                                                   |                        |
|-------------------------------------------------------------------|------------------------|
| Maximum v/c Ratio: 2.69                                           |                        |
| Intersection Signal Delay (s/veh): 34.1                           | Intersection LOS: C    |
| Intersection Capacity Utilization 88.7%                           | ICU Level of Service E |
| Analysis Period (min) 15                                          |                        |
| ~ Volume exceeds capacity, queue is theoretically infinite.       |                        |
| Queue shown is maximum after two cycles.                          |                        |
| # 95th percentile volume exceeds capacity, queue may be longer.   |                        |
| Queue shown is maximum after two cycles.                          |                        |
| m Volume for 95th percentile queue is metered by upstream signal. |                        |

Splits and Phases: 1: Mohawk Road & E Woodmen Road



# Timings

## 2: Banning Lewis Parkway & E Woodmen Road

# Background Traffic Conditions

## PM Peak Traffic Hour - 2045

|                         |  |  |  |  |  |  |  |  |  |  |  |  |
|-------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Lane Group              | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | WBR                                                                               | NBL                                                                                 | NBT                                                                                 | NBR                                                                                 | SBL                                                                                 | SBT                                                                                 | SBR                                                                                 |
| Lane Configurations     |  |  |  |  |  |  |  |  |  |  |  |  |
| Traffic Volume (vph)    | 1                                                                                 | 2275                                                                              | 235                                                                               | 248                                                                               | 2761                                                                              | 3                                                                                 | 111                                                                                 | 1                                                                                   | 165                                                                                 | 10                                                                                  | 3                                                                                   | 18                                                                                  |
| Future Volume (vph)     | 1                                                                                 | 2275                                                                              | 235                                                                               | 248                                                                               | 2761                                                                              | 3                                                                                 | 111                                                                                 | 1                                                                                   | 165                                                                                 | 10                                                                                  | 3                                                                                   | 18                                                                                  |
| Satd. Flow (prot)       | 3433                                                                              | 5085                                                                              | 1583                                                                              | 3433                                                                              | 5085                                                                              | 1583                                                                              | 3433                                                                                | 5085                                                                                | 1583                                                                                | 3433                                                                                | 5085                                                                                | 1583                                                                                |
| Flt Permitted           | 0.950                                                                             |                                                                                   |                                                                                   | 0.950                                                                             |                                                                                   |                                                                                   | 0.950                                                                               |                                                                                     |                                                                                     | 0.950                                                                               |                                                                                     |                                                                                     |
| Satd. Flow (perm)       | 3433                                                                              | 5085                                                                              | 1583                                                                              | 3433                                                                              | 5085                                                                              | 1583                                                                              | 3433                                                                                | 5085                                                                                | 1583                                                                                | 3433                                                                                | 5085                                                                                | 1583                                                                                |
| Satd. Flow (RTOR)       |                                                                                   |                                                                                   | 245                                                                               |                                                                                   |                                                                                   | 245                                                                               |                                                                                     |                                                                                     | 245                                                                                 |                                                                                     |                                                                                     | 245                                                                                 |
| Lane Group Flow (vph)   | 1                                                                                 | 2473                                                                              | 255                                                                               | 270                                                                               | 3001                                                                              | 3                                                                                 | 121                                                                                 | 1                                                                                   | 179                                                                                 | 11                                                                                  | 3                                                                                   | 20                                                                                  |
| Turn Type               | Prot                                                                              | NA                                                                                | Free                                                                              | Prot                                                                              | NA                                                                                | Free                                                                              | Prot                                                                                | NA                                                                                  | Free                                                                                | Prot                                                                                | NA                                                                                  | Free                                                                                |
| Protected Phases        | 5                                                                                 | 2                                                                                 |                                                                                   | 1                                                                                 | 6                                                                                 |                                                                                   | 7                                                                                   | 4                                                                                   |                                                                                     | 3                                                                                   | 8                                                                                   |                                                                                     |
| Permitted Phases        |                                                                                   |                                                                                   | Free                                                                              |                                                                                   |                                                                                   | Free                                                                              |                                                                                     |                                                                                     | Free                                                                                |                                                                                     |                                                                                     | Free                                                                                |
| Detector Phase          | 5                                                                                 | 2                                                                                 |                                                                                   | 1                                                                                 | 6                                                                                 |                                                                                   | 7                                                                                   | 4                                                                                   |                                                                                     | 3                                                                                   | 8                                                                                   |                                                                                     |
| Switch Phase            |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Minimum Initial (s)     | 5.0                                                                               | 5.0                                                                               |                                                                                   | 5.0                                                                               | 5.0                                                                               |                                                                                   | 5.0                                                                                 | 5.0                                                                                 |                                                                                     | 5.0                                                                                 | 5.0                                                                                 |                                                                                     |
| Minimum Split (s)       | 11.0                                                                              | 11.0                                                                              |                                                                                   | 11.0                                                                              | 11.0                                                                              |                                                                                   | 11.0                                                                                | 11.0                                                                                |                                                                                     | 11.0                                                                                | 11.0                                                                                |                                                                                     |
| Total Split (s)         | 11.0                                                                              | 76.0                                                                              |                                                                                   | 21.0                                                                              | 86.0                                                                              |                                                                                   | 12.0                                                                                | 12.0                                                                                |                                                                                     | 11.0                                                                                | 11.0                                                                                |                                                                                     |
| Total Split (%)         | 9.2%                                                                              | 63.3%                                                                             |                                                                                   | 17.5%                                                                             | 71.7%                                                                             |                                                                                   | 10.0%                                                                               | 10.0%                                                                               |                                                                                     | 9.2%                                                                                | 9.2%                                                                                |                                                                                     |
| Yellow Time (s)         | 4.0                                                                               | 4.0                                                                               |                                                                                   | 4.0                                                                               | 4.0                                                                               |                                                                                   | 4.0                                                                                 | 4.0                                                                                 |                                                                                     | 4.0                                                                                 | 4.0                                                                                 |                                                                                     |
| All-Red Time (s)        | 2.0                                                                               | 2.0                                                                               |                                                                                   | 2.0                                                                               | 2.0                                                                               |                                                                                   | 2.0                                                                                 | 2.0                                                                                 |                                                                                     | 2.0                                                                                 | 2.0                                                                                 |                                                                                     |
| Lost Time Adjust (s)    | 0.0                                                                               | 0.0                                                                               |                                                                                   | 0.0                                                                               | 0.0                                                                               |                                                                                   | 0.0                                                                                 | 0.0                                                                                 |                                                                                     | 0.0                                                                                 | 0.0                                                                                 |                                                                                     |
| Total Lost Time (s)     | 6.0                                                                               | 6.0                                                                               |                                                                                   | 6.0                                                                               | 6.0                                                                               |                                                                                   | 6.0                                                                                 | 6.0                                                                                 |                                                                                     | 6.0                                                                                 | 6.0                                                                                 |                                                                                     |
| Lead/Lag                | Lead                                                                              | Lag                                                                               |                                                                                   | Lead                                                                              | Lag                                                                               |                                                                                   | Lead                                                                                | Lag                                                                                 |                                                                                     | Lead                                                                                | Lag                                                                                 |                                                                                     |
| Lead-Lag Optimize?      | Yes                                                                               | Yes                                                                               |                                                                                   | Yes                                                                               | Yes                                                                               |                                                                                   | Yes                                                                                 | Yes                                                                                 |                                                                                     | Yes                                                                                 | Yes                                                                                 |                                                                                     |
| Recall Mode             | None                                                                              | C-Max                                                                             |                                                                                   | None                                                                              | C-Max                                                                             |                                                                                   | None                                                                                | None                                                                                |                                                                                     | None                                                                                | None                                                                                |                                                                                     |
| Act Effect Green (s)    | 5.4                                                                               | 79.9                                                                              | 120.0                                                                             | 13.9                                                                              | 97.6                                                                              | 120.0                                                                             | 6.0                                                                                 | 6.0                                                                                 | 120.0                                                                               | 5.0                                                                                 | 5.0                                                                                 | 120.0                                                                               |
| Actuated g/C Ratio      | 0.05                                                                              | 0.67                                                                              | 1.00                                                                              | 0.12                                                                              | 0.81                                                                              | 1.00                                                                              | 0.05                                                                                | 0.05                                                                                | 1.00                                                                                | 0.04                                                                                | 0.04                                                                                | 1.00                                                                                |
| v/c Ratio               | 0.01                                                                              | 0.73                                                                              | 0.16                                                                              | 0.68                                                                              | 0.73                                                                              | 0.00                                                                              | 0.71                                                                                | 0.00                                                                                | 0.11                                                                                | 0.08                                                                                | 0.01                                                                                | 0.01                                                                                |
| Control Delay (s/veh)   | 54.0                                                                              | 14.8                                                                              | 0.2                                                                               | 48.5                                                                              | 21.9                                                                              | 0.0                                                                               | 78.3                                                                                | 54.0                                                                                | 0.1                                                                                 | 56.5                                                                                | 55.3                                                                                | 0.0                                                                                 |
| 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                                                                                 |
| Total Delay (s/veh)     | 54.0                                                                              | 14.8                                                                              | 0.2                                                                               | 48.5                                                                              | 21.9                                                                              | 0.0                                                                               | 78.3                                                                                | 54.0                                                                                | 0.1                                                                                 | 56.5                                                                                | 55.3                                                                                | 0.0                                                                                 |
| LOS                     | D                                                                                 | B                                                                                 | A                                                                                 | D                                                                                 | C                                                                                 | A                                                                                 | E                                                                                   | D                                                                                   | A                                                                                   | E                                                                                   | E                                                                                   | A                                                                                   |
| Approach Delay (s/veh)  |                                                                                   | 13.5                                                                              |                                                                                   |                                                                                   | 24.1                                                                              |                                                                                   |                                                                                     | 31.8                                                                                |                                                                                     |                                                                                     | 23.2                                                                                |                                                                                     |
| Approach LOS            |                                                                                   | B                                                                                 |                                                                                   |                                                                                   | C                                                                                 |                                                                                   |                                                                                     | C                                                                                   |                                                                                     |                                                                                     | C                                                                                   |                                                                                     |
| Queue Length 50th (ft)  | 0                                                                                 | 369                                                                               | 0                                                                                 | 90                                                                                | 759                                                                               | 0                                                                                 | 48                                                                                  | 0                                                                                   | 0                                                                                   | 4                                                                                   | 0                                                                                   | 0                                                                                   |
| Queue Length 95th (ft)  | m0                                                                                | 509                                                                               | 0                                                                                 | m124                                                                              | m911                                                                              | m0                                                                                | #93                                                                                 | 2                                                                                   | 0                                                                                   | 14                                                                                  | 4                                                                                   | 0                                                                                   |
| Internal Link Dist (ft) |                                                                                   | 712                                                                               |                                                                                   |                                                                                   | 722                                                                               |                                                                                   |                                                                                     | 667                                                                                 |                                                                                     |                                                                                     | 695                                                                                 |                                                                                     |
| Turn Bay Length (ft)    | 285                                                                               |                                                                                   |                                                                                   | 285                                                                               |                                                                                   | 225                                                                               | 185                                                                                 |                                                                                     | 185                                                                                 | 185                                                                                 |                                                                                     | 185                                                                                 |
| Base Capacity (vph)     | 155                                                                               | 3384                                                                              | 1583                                                                              | 436                                                                               | 4136                                                                              | 1583                                                                              | 171                                                                                 | 254                                                                                 | 1583                                                                                | 143                                                                                 | 211                                                                                 | 1583                                                                                |
| Starvation Cap Reductn  | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                   | 0                                                                                   | 0                                                                                   | 0                                                                                   | 0                                                                                   | 0                                                                                   |
| Spillback Cap Reductn   | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                   | 0                                                                                   | 0                                                                                   | 0                                                                                   | 0                                                                                   | 0                                                                                   |
| Storage Cap Reductn     | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                   | 0                                                                                   | 0                                                                                   | 0                                                                                   | 0                                                                                   | 0                                                                                   |
| Reduced v/c Ratio       | 0.01                                                                              | 0.73                                                                              | 0.16                                                                              | 0.62                                                                              | 0.73                                                                              | 0.00                                                                              | 0.71                                                                                | 0.00                                                                                | 0.11                                                                                | 0.08                                                                                | 0.01                                                                                | 0.01                                                                                |

### Intersection Summary

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Green

Natural Cycle: 90

Control Type: Actuated-Coordinated

Timings  
2: Banning Lewis Parkway & E Woodmen Road

Background Traffic Conditions  
PM Peak Traffic Hour - 2045

Maximum v/c Ratio: 0.73

Intersection Signal Delay (s/veh): 19.9

Intersection LOS: B

Intersection Capacity Utilization 82.3%

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.

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 2: Banning Lewis Parkway & E Woodmen Road



# Timings

## 3: Golden Sage Road & E Woodmen Road

# Background Traffic Conditions

## PM Peak Traffic Hour - 2045

|                         |  |                                                                                                                                                                      |  |  |                                                                                                                                                                      |  |  |  |  |  |                                                                                      |  |
|-------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Lane Group              | EBL                                                                               | EBT                                                                                                                                                                                                                                                   | EBR                                                                               | WBL                                                                               | WBT                                                                                                                                                                                                                                                   | WBR                                                                               | NBL                                                                                 | NBT                                                                                 | NBR                                                                                 | SBL                                                                                 | SBT                                                                                                                                                                     | SBR                                                                                 |
| Lane Configurations     |  |    |  |  |    |  |  |  |  |  |   |  |
| Traffic Volume (vph)    | 380                                                                               | 1932                                                                                                                                                                                                                                                  | 175                                                                               | 58                                                                                | 1745                                                                                                                                                                                                                                                  | 10                                                                                | 70                                                                                  | 21                                                                                  | 16                                                                                  | 21                                                                                  | 18                                                                                                                                                                      | 300                                                                                 |
| Future Volume (vph)     | 380                                                                               | 1932                                                                                                                                                                                                                                                  | 175                                                                               | 58                                                                                | 1745                                                                                                                                                                                                                                                  | 10                                                                                | 70                                                                                  | 21                                                                                  | 16                                                                                  | 21                                                                                  | 18                                                                                                                                                                      | 300                                                                                 |
| Satd. Flow (prot)       | 1770                                                                              | 5085                                                                                                                                                                                                                                                  | 1583                                                                              | 1770                                                                              | 5085                                                                                                                                                                                                                                                  | 1583                                                                              | 1770                                                                                | 1863                                                                                | 1583                                                                                | 1770                                                                                | 1600                                                                                                                                                                    | 0                                                                                   |
| Flt Permitted           | 0.067                                                                             |                                                                                                                                                                                                                                                       |                                                                                   | 0.075                                                                             |                                                                                                                                                                                                                                                       |                                                                                   | 0.167                                                                               |                                                                                     |                                                                                     | 0.742                                                                               |                                                                                                                                                                         |                                                                                     |
| Satd. Flow (perm)       | 125                                                                               | 5085                                                                                                                                                                                                                                                  | 1583                                                                              | 140                                                                               | 5085                                                                                                                                                                                                                                                  | 1583                                                                              | 311                                                                                 | 1863                                                                                | 1583                                                                                | 1382                                                                                | 1600                                                                                                                                                                    | 0                                                                                   |
| Satd. Flow (RTOR)       |                                                                                   |                                                                                                                                                                                                                                                       | 190                                                                               |                                                                                   |                                                                                                                                                                                                                                                       | 127                                                                               |                                                                                     |                                                                                     | 182                                                                                 |                                                                                     | 301                                                                                                                                                                     |                                                                                     |
| Lane Group Flow (vph)   | 413                                                                               | 2100                                                                                                                                                                                                                                                  | 190                                                                               | 63                                                                                | 1897                                                                                                                                                                                                                                                  | 11                                                                                | 76                                                                                  | 23                                                                                  | 17                                                                                  | 23                                                                                  | 346                                                                                                                                                                     | 0                                                                                   |
| Turn Type               | pm+pt                                                                             | NA                                                                                                                                                                                                                                                    | Perm                                                                              | pm+pt                                                                             | NA                                                                                                                                                                                                                                                    | Perm                                                                              | Perm                                                                                | NA                                                                                  | Free                                                                                | Perm                                                                                | NA                                                                                                                                                                      |                                                                                     |
| Protected Phases        | 5                                                                                 | 2                                                                                                                                                                                                                                                     |                                                                                   | 1                                                                                 | 6                                                                                                                                                                                                                                                     |                                                                                   |                                                                                     | 4                                                                                   |                                                                                     |                                                                                     | 8                                                                                                                                                                       |                                                                                     |
| Permitted Phases        | 2                                                                                 |                                                                                                                                                                                                                                                       | 2                                                                                 | 6                                                                                 |                                                                                                                                                                                                                                                       | 6                                                                                 | 4                                                                                   |                                                                                     | Free                                                                                | 8                                                                                   |                                                                                                                                                                         |                                                                                     |
| Detector Phase          | 5                                                                                 | 2                                                                                                                                                                                                                                                     | 2                                                                                 | 1                                                                                 | 6                                                                                                                                                                                                                                                     | 6                                                                                 | 4                                                                                   | 4                                                                                   |                                                                                     | 8                                                                                   | 8                                                                                                                                                                       |                                                                                     |
| Switch Phase            |                                                                                   |                                                                                                                                                                                                                                                       |                                                                                   |                                                                                   |                                                                                                                                                                                                                                                       |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                                                                                                         |                                                                                     |
| Minimum Initial (s)     | 5.0                                                                               | 5.0                                                                                                                                                                                                                                                   | 5.0                                                                               | 5.0                                                                               | 5.0                                                                                                                                                                                                                                                   | 5.0                                                                               | 5.0                                                                                 | 5.0                                                                                 |                                                                                     | 5.0                                                                                 | 5.0                                                                                                                                                                     |                                                                                     |
| Minimum Split (s)       | 11.0                                                                              | 11.0                                                                                                                                                                                                                                                  | 11.0                                                                              | 11.0                                                                              | 11.0                                                                                                                                                                                                                                                  | 11.0                                                                              | 10.0                                                                                | 10.0                                                                                |                                                                                     | 10.0                                                                                | 10.0                                                                                                                                                                    |                                                                                     |
| Total Split (s)         | 32.0                                                                              | 80.0                                                                                                                                                                                                                                                  | 80.0                                                                              | 11.0                                                                              | 59.0                                                                                                                                                                                                                                                  | 59.0                                                                              | 29.0                                                                                | 29.0                                                                                |                                                                                     | 29.0                                                                                | 29.0                                                                                                                                                                    |                                                                                     |
| Total Split (%)         | 26.7%                                                                             | 66.7%                                                                                                                                                                                                                                                 | 66.7%                                                                             | 9.2%                                                                              | 49.2%                                                                                                                                                                                                                                                 | 49.2%                                                                             | 24.2%                                                                               | 24.2%                                                                               |                                                                                     | 24.2%                                                                               | 24.2%                                                                                                                                                                   |                                                                                     |
| Yellow Time (s)         | 4.0                                                                               | 4.0                                                                                                                                                                                                                                                   | 4.0                                                                               | 4.0                                                                               | 4.0                                                                                                                                                                                                                                                   | 4.0                                                                               | 3.0                                                                                 | 3.0                                                                                 |                                                                                     | 3.0                                                                                 | 3.0                                                                                                                                                                     |                                                                                     |
| All-Red Time (s)        | 2.0                                                                               | 2.0                                                                                                                                                                                                                                                   | 2.0                                                                               | 2.0                                                                               | 2.0                                                                                                                                                                                                                                                   | 2.0                                                                               | 2.0                                                                                 | 2.0                                                                                 |                                                                                     | 2.0                                                                                 | 2.0                                                                                                                                                                     |                                                                                     |
| Lost Time Adjust (s)    | 0.0                                                                               | 0.0                                                                                                                                                                                                                                                   | 0.0                                                                               | 0.0                                                                               | 0.0                                                                                                                                                                                                                                                   | 0.0                                                                               | 0.0                                                                                 | 0.0                                                                                 |                                                                                     | 0.0                                                                                 | 0.0                                                                                                                                                                     |                                                                                     |
| Total Lost Time (s)     | 6.0                                                                               | 6.0                                                                                                                                                                                                                                                   | 6.0                                                                               | 6.0                                                                               | 6.0                                                                                                                                                                                                                                                   | 6.0                                                                               | 5.0                                                                                 | 5.0                                                                                 |                                                                                     | 5.0                                                                                 | 5.0                                                                                                                                                                     |                                                                                     |
| Lead/Lag                | Lead                                                                              | Lag                                                                                                                                                                                                                                                   | Lag                                                                               | Lead                                                                              | Lag                                                                                                                                                                                                                                                   | Lag                                                                               |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                                                                                                         |                                                                                     |
| Lead-Lag Optimize?      | Yes                                                                               | Yes                                                                                                                                                                                                                                                   | Yes                                                                               | Yes                                                                               | Yes                                                                                                                                                                                                                                                   | Yes                                                                               |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                                                                                                         |                                                                                     |
| Recall Mode             | None                                                                              | C-Max                                                                                                                                                                                                                                                 | C-Max                                                                             | None                                                                              | C-Max                                                                                                                                                                                                                                                 | C-Max                                                                             | Max                                                                                 | Max                                                                                 |                                                                                     | Max                                                                                 | Max                                                                                                                                                                     |                                                                                     |
| Act Effect Green (s)    | 85.0                                                                              | 76.2                                                                                                                                                                                                                                                  | 76.2                                                                              | 58.8                                                                              | 53.8                                                                                                                                                                                                                                                  | 53.8                                                                              | 24.0                                                                                | 24.0                                                                                | 120.0                                                                               | 24.0                                                                                | 24.0                                                                                                                                                                    |                                                                                     |
| Actuated g/C Ratio      | 0.71                                                                              | 0.64                                                                                                                                                                                                                                                  | 0.64                                                                              | 0.49                                                                              | 0.45                                                                                                                                                                                                                                                  | 0.45                                                                              | 0.20                                                                                | 0.20                                                                                | 1.00                                                                                | 0.20                                                                                | 0.20                                                                                                                                                                    |                                                                                     |
| v/c Ratio               | 0.95                                                                              | 0.65                                                                                                                                                                                                                                                  | 0.18                                                                              | 0.46                                                                              | 0.83                                                                                                                                                                                                                                                  | 0.01                                                                              | 1.23                                                                                | 0.06                                                                                | 0.01                                                                                | 0.08                                                                                | 0.62                                                                                                                                                                    |                                                                                     |
| Control Delay (s/veh)   | 62.9                                                                              | 24.1                                                                                                                                                                                                                                                  | 5.5                                                                               | 27.1                                                                              | 33.4                                                                                                                                                                                                                                                  | 0.0                                                                               | 229.1                                                                               | 39.6                                                                                | 0.0                                                                                 | 40.2                                                                                | 13.0                                                                                                                                                                    |                                                                                     |
| Queue Delay             | 0.0                                                                               | 0.0                                                                                                                                                                                                                                                   | 0.0                                                                               | 0.0                                                                               | 0.0                                                                                                                                                                                                                                                   | 0.0                                                                               | 0.0                                                                                 | 0.0                                                                                 | 0.0                                                                                 | 0.0                                                                                 | 0.0                                                                                                                                                                     |                                                                                     |
| Total Delay (s/veh)     | 62.9                                                                              | 24.1                                                                                                                                                                                                                                                  | 5.5                                                                               | 27.1                                                                              | 33.4                                                                                                                                                                                                                                                  | 0.0                                                                               | 229.1                                                                               | 39.6                                                                                | 0.0                                                                                 | 40.2                                                                                | 13.0                                                                                                                                                                    |                                                                                     |
| LOS                     | E                                                                                 | C                                                                                                                                                                                                                                                     | A                                                                                 | C                                                                                 | C                                                                                                                                                                                                                                                     | A                                                                                 | F                                                                                   | D                                                                                   | A                                                                                   | D                                                                                   | B                                                                                                                                                                       |                                                                                     |
| Approach Delay (s/veh)  |                                                                                   | 28.7                                                                                                                                                                                                                                                  |                                                                                   |                                                                                   | 33.0                                                                                                                                                                                                                                                  |                                                                                   |                                                                                     | 158.0                                                                               |                                                                                     |                                                                                     | 14.7                                                                                                                                                                    |                                                                                     |
| Approach LOS            |                                                                                   | C                                                                                                                                                                                                                                                     |                                                                                   |                                                                                   | C                                                                                                                                                                                                                                                     |                                                                                   |                                                                                     | F                                                                                   |                                                                                     |                                                                                     | B                                                                                                                                                                       |                                                                                     |
| Queue Length 50th (ft)  | 289                                                                               | 626                                                                                                                                                                                                                                                   | 37                                                                                | 13                                                                                | 469                                                                                                                                                                                                                                                   | 0                                                                                 | ~72                                                                                 | 15                                                                                  | 0                                                                                   | 15                                                                                  | 29                                                                                                                                                                      |                                                                                     |
| Queue Length 95th (ft)  | #444                                                                              | 677                                                                                                                                                                                                                                                   | m49                                                                               | 41                                                                                | 538                                                                                                                                                                                                                                                   | 0                                                                                 | #176                                                                                | 38                                                                                  | 0                                                                                   | 39                                                                                  | 125                                                                                                                                                                     |                                                                                     |
| Internal Link Dist (ft) |                                                                                   | 600                                                                                                                                                                                                                                                   |                                                                                   |                                                                                   | 542                                                                                                                                                                                                                                                   |                                                                                   |                                                                                     | 565                                                                                 |                                                                                     |                                                                                     | 379                                                                                                                                                                     |                                                                                     |
| Turn Bay Length (ft)    | 530                                                                               |                                                                                                                                                                                                                                                       | 380                                                                               | 330                                                                               |                                                                                                                                                                                                                                                       | 360                                                                               | 125                                                                                 |                                                                                     | 195                                                                                 | 110                                                                                 |                                                                                                                                                                         |                                                                                     |
| Base Capacity (vph)     | 444                                                                               | 3228                                                                                                                                                                                                                                                  | 1074                                                                              | 136                                                                               | 2277                                                                                                                                                                                                                                                  | 779                                                                               | 62                                                                                  | 372                                                                                 | 1583                                                                                | 276                                                                                 | 560                                                                                                                                                                     |                                                                                     |
| Starvation Cap Reductn  | 0                                                                                 | 0                                                                                                                                                                                                                                                     | 0                                                                                 | 0                                                                                 | 0                                                                                                                                                                                                                                                     | 0                                                                                 | 0                                                                                   | 0                                                                                   | 0                                                                                   | 0                                                                                   | 0                                                                                                                                                                       |                                                                                     |
| Spillback Cap Reductn   | 0                                                                                 | 0                                                                                                                                                                                                                                                     | 0                                                                                 | 0                                                                                 | 0                                                                                                                                                                                                                                                     | 0                                                                                 | 0                                                                                   | 0                                                                                   | 0                                                                                   | 0                                                                                   | 0                                                                                                                                                                       |                                                                                     |
| Storage Cap Reductn     | 0                                                                                 | 0                                                                                                                                                                                                                                                     | 0                                                                                 | 0                                                                                 | 0                                                                                                                                                                                                                                                     | 0                                                                                 | 0                                                                                   | 0                                                                                   | 0                                                                                   | 0                                                                                   | 0                                                                                                                                                                       |                                                                                     |
| Reduced v/c Ratio       | 0.93                                                                              | 0.65                                                                                                                                                                                                                                                  | 0.18                                                                              | 0.46                                                                              | 0.83                                                                                                                                                                                                                                                  | 0.01                                                                              | 1.23                                                                                | 0.06                                                                                | 0.01                                                                                | 0.08                                                                                | 0.62                                                                                                                                                                    |                                                                                     |

### Intersection Summary

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green

Natural Cycle: 70

Control Type: Actuated-Coordinated

Timings  
3: Golden Sage Road & E Woodmen Road

Background Traffic Conditions  
PM Peak Traffic Hour - 2045

Maximum v/c Ratio: 1.23

Intersection Signal Delay (s/veh): 32.3

Intersection LOS: C

Intersection Capacity Utilization 96.8%

ICU Level of Service F

Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.

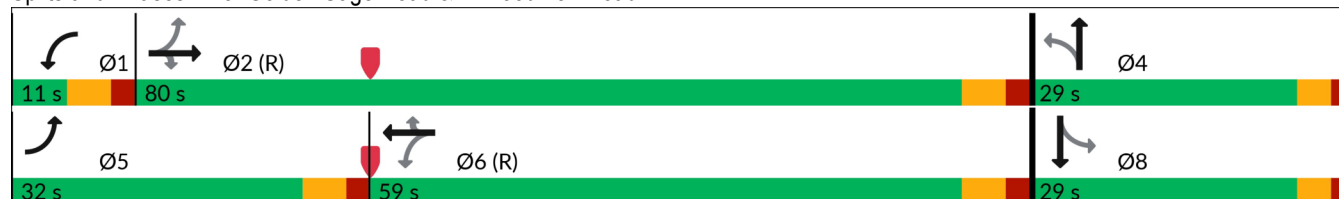
Queue shown is maximum after two cycles.

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

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 3: Golden Sage Road & E Woodmen Road



HCM Unsignalized Intersection Capacity Analysis  
4: Golden Sage Road & Woodmen Frontage Road

Background Traffic Conditions  
PM Peak Traffic Hour - 2045

|                                   |  |  |  |  |  |  |
|-----------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|
| Movement                          | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | NBL                                                                               | NBR                                                                               |
| Lane Configurations               |  |                                                                                   |                                                                                   |  |  |                                                                                   |
| Traffic Volume (veh/h)            | 5                                                                                 | 1                                                                                 | 364                                                                               | 5                                                                                 | 452                                                                               | 1                                                                                 |
| Future Volume (Veh/h)             | 5                                                                                 | 1                                                                                 | 364                                                                               | 5                                                                                 | 452                                                                               | 1                                                                                 |
| Sign Control                      | Stop                                                                              |                                                                                   |                                                                                   | Stop                                                                              | Free                                                                              |                                                                                   |
| Grade                             | 0%                                                                                |                                                                                   |                                                                                   | 0%                                                                                | 0%                                                                                |                                                                                   |
| Peak Hour Factor                  | 0.92                                                                              | 0.92                                                                              | 0.92                                                                              | 0.92                                                                              | 0.92                                                                              | 0.92                                                                              |
| Hourly flow rate (vph)            | 5                                                                                 | 1                                                                                 | 396                                                                               | 5                                                                                 | 491                                                                               | 1                                                                                 |
| Pedestrians                       |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Lane Width (ft)                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Walking Speed (ft/s)              |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Percent Blockage                  |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Right turn flare (veh)            |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Median type                       |                                                                                   |                                                                                   |                                                                                   |                                                                                   | None                                                                              |                                                                                   |
| Median storage (veh)              |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Upstream signal (ft)              |                                                                                   |                                                                                   |                                                                                   |                                                                                   | 459                                                                               |                                                                                   |
| pX, platoon unblocked             |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| vC, conflicting volume            | 983                                                                               | 0                                                                                 | 986                                                                               | 983                                                                               | 0                                                                                 |                                                                                   |
| vC1, stage 1 conf vol             |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| vC2, stage 2 conf vol             |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| vCu, unblocked vol                | 983                                                                               | 0                                                                                 | 986                                                                               | 983                                                                               | 0                                                                                 |                                                                                   |
| tC, single (s)                    | 6.5                                                                               | 6.2                                                                               | 7.1                                                                               | 6.5                                                                               | 4.1                                                                               |                                                                                   |
| tC, 2 stage (s)                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| tF (s)                            | 4.0                                                                               | 3.3                                                                               | 3.5                                                                               | 4.0                                                                               | 2.2                                                                               |                                                                                   |
| p0 queue free %                   | 97                                                                                | 100                                                                               | 0                                                                                 | 97                                                                                | 70                                                                                |                                                                                   |
| cM capacity (veh/h)               | 174                                                                               | 1085                                                                              | 170                                                                               | 174                                                                               | 1623                                                                              |                                                                                   |
| Direction, Lane #                 | EB 1                                                                              | WB 1                                                                              | NB 1                                                                              |                                                                                   |                                                                                   |                                                                                   |
| Volume Total                      | 6                                                                                 | 401                                                                               | 492                                                                               |                                                                                   |                                                                                   |                                                                                   |
| Volume Left                       | 0                                                                                 | 396                                                                               | 491                                                                               |                                                                                   |                                                                                   |                                                                                   |
| Volume Right                      | 1                                                                                 | 0                                                                                 | 1                                                                                 |                                                                                   |                                                                                   |                                                                                   |
| cSH                               | 202                                                                               | 170                                                                               | 1623                                                                              |                                                                                   |                                                                                   |                                                                                   |
| Volume to Capacity                | 0.03                                                                              | 2.36                                                                              | 0.30                                                                              |                                                                                   |                                                                                   |                                                                                   |
| Queue Length 95th (ft)            | 2                                                                                 | 835                                                                               | 32                                                                                |                                                                                   |                                                                                   |                                                                                   |
| Control Delay (s/veh)             | 23.4                                                                              | 672.6                                                                             | 8.2                                                                               |                                                                                   |                                                                                   |                                                                                   |
| Lane LOS                          | C                                                                                 | F                                                                                 | A                                                                                 |                                                                                   |                                                                                   |                                                                                   |
| Approach Delay (s/veh)            | 23.4                                                                              | 672.6                                                                             | 8.2                                                                               |                                                                                   |                                                                                   |                                                                                   |
| Approach LOS                      | C                                                                                 | F                                                                                 |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Intersection Summary              |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Average Delay                     |                                                                                   | 304.6                                                                             |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Intersection Capacity Utilization |                                                                                   | 58.9%                                                                             |                                                                                   | ICU Level of Service                                                              |                                                                                   | B                                                                                 |
| Analysis Period (min)             |                                                                                   | 15                                                                                |                                                                                   |                                                                                   |                                                                                   |                                                                                   |

Intersection

Int Delay, s/veh 4.5

| Movement                 | EBL  | EBT  | EBR  | WBL  | WBT  | WBR  | NBL  | NBT  | NBR  | SBL  | SBT  | SBR  |
|--------------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Lane Configurations      |      | ↕    |      |      | ↕    |      |      | ↕    |      |      | ↕    |      |
| Traffic Vol, veh/h       | 6    | 6    | 12   | 27   | 9    | 5    | 10   | 28   | 15   | 1    | 27   | 5    |
| Future Vol, veh/h        | 6    | 6    | 12   | 27   | 9    | 5    | 10   | 28   | 15   | 1    | 27   | 5    |
| Conflicting Peds, #/hr   | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Sign Control             | Stop | Stop | Stop | Stop | Stop | Stop | Free | Free | Free | Free | Free | Free |
| RT Channelized           | -    | -    | None | -    | -    | None | -    | -    | None | -    | -    | 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                | 7    | 7    | 13   | 29   | 10   | 5    | 11   | 30   | 16   | 1    | 29   | 5    |

| Major/Minor          | Minor2 |       | Minor1 |       | Major1 |       | Major2 |   |   |       |   |   |
|----------------------|--------|-------|--------|-------|--------|-------|--------|---|---|-------|---|---|
| Conflicting Flow All | 91     | 103   | 32     | 95    | 97     | 39    | 35     | 0 | 0 | 47    | 0 | 0 |
| Stage 1              | 34     | 34    | -      | 60    | 60     | -     | -      | - | - | -     | - | - |
| Stage 2              | 57     | 68    | -      | 35    | 37     | -     | -      | - | - | -     | - | - |
| Critical Hdwy        | 7.12   | 6.52  | 6.22   | 7.12  | 6.52   | 6.22  | 4.12   | - | - | 4.12  | - | - |
| Critical Hdwy Stg 1  | 6.12   | 5.52  | -      | 6.12  | 5.52   | -     | -      | - | - | -     | - | - |
| Critical Hdwy Stg 2  | 6.12   | 5.52  | -      | 6.12  | 5.52   | -     | -      | - | - | -     | - | - |
| Follow-up Hdwy       | 3.518  | 4.018 | 3.318  | 3.518 | 4.018  | 3.318 | 2.218  | - | - | 2.218 | - | - |
| Pot Cap-1 Maneuver   | 893    | 787   | 1042   | 888   | 793    | 1033  | 1577   | - | - | 1561  | - | - |
| Stage 1              | 982    | 866   | -      | 951   | 845    | -     | -      | - | - | -     | - | - |
| Stage 2              | 955    | 838   | -      | 981   | 864    | -     | -      | - | - | -     | - | - |
| Platoon blocked, %   |        |       |        |       |        |       |        | - | - | -     | - | - |
| Mov Cap-1 Maneuver   | 870    | 781   | 1042   | 863   | 787    | 1033  | 1577   | - | - | 1561  | - | - |
| Mov Cap-2 Maneuver   | 870    | 781   | -      | 863   | 787    | -     | -      | - | - | -     | - | - |
| Stage 1              | 981    | 866   | -      | 944   | 839    | -     | -      | - | - | -     | - | - |
| Stage 2              | 932    | 832   | -      | 961   | 864    | -     | -      | - | - | -     | - | - |

| Approach          | EB   |  | WB   |  | NB   |  | SB   |  |
|-------------------|------|--|------|--|------|--|------|--|
| HCM Ctrl Dly, s/v | 9.03 |  | 9.41 |  | 1.38 |  | 0.22 |  |
| HCM LOS           | A    |  | A    |  |      |  |      |  |

| Minor Lane/Major Mvmt | NBL   | NBT | NBR | EBLn1WBLn1 | SBL   | SBT   | SBR |
|-----------------------|-------|-----|-----|------------|-------|-------|-----|
| Capacity (veh/h)      | 317   | -   | -   | 920        | 862   | 53    | -   |
| HCM Lane V/C Ratio    | 0.007 | -   | -   | 0.028      | 0.052 | 0.001 | -   |
| HCM Ctrl Dly (s/v)    | 7.3   | 0   | -   | 9          | 9.4   | 7.3   | 0   |
| HCM Lane LOS          | A     | A   | -   | A          | A     | A     | -   |
| HCM 95th %tile Q(veh) | 0     | -   | -   | 0.1        | 0.2   | 0     | -   |

# Timings

1: Mohawk Road & E Woodmen Road

Total Traffic Conditions  
AM Peak Traffic Hour - 2030

|                                                            |  |                                                                                                                                                                      |  |  |                                                                                                                                                                      |  |  |                                                                                      |  |  |  |  |
|------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Lane Group                                                 | EBL                                                                               | EBT                                                                                                                                                                                                                                                   | EBR                                                                               | WBL                                                                               | WBT                                                                                                                                                                                                                                                   | WBR                                                                               | NBL                                                                                 | NBT                                                                                                                                                                     | NBR                                                                                 | SBL                                                                                 | SBT                                                                                 | SBR                                                                                 |
| Lane Configurations                                        |  |    |  |  |    |  |                                                                                     |   |                                                                                     |  |  |                                                                                     |
| Traffic Volume (vph)                                       | 67                                                                                | 1769                                                                                                                                                                                                                                                  | 5                                                                                 | 1                                                                                 | 2937                                                                                                                                                                                                                                                  | 24                                                                                | 1                                                                                   | 5                                                                                                                                                                       | 5                                                                                   | 21                                                                                  | 5                                                                                   | 54                                                                                  |
| Future Volume (vph)                                        | 67                                                                                | 1769                                                                                                                                                                                                                                                  | 5                                                                                 | 1                                                                                 | 2937                                                                                                                                                                                                                                                  | 24                                                                                | 1                                                                                   | 5                                                                                                                                                                       | 5                                                                                   | 21                                                                                  | 5                                                                                   | 54                                                                                  |
| Satd. Flow (prot)                                          | 1770                                                                              | 5085                                                                                                                                                                                                                                                  | 1583                                                                              | 1770                                                                              | 5085                                                                                                                                                                                                                                                  | 1583                                                                              | 0                                                                                   | 1740                                                                                                                                                                    | 0                                                                                   | 1770                                                                                | 1606                                                                                | 0                                                                                   |
| Flt Permitted                                              | 0.039                                                                             |                                                                                                                                                                                                                                                       |                                                                                   | 0.098                                                                             |                                                                                                                                                                                                                                                       |                                                                                   |                                                                                     | 0.962                                                                                                                                                                   |                                                                                     | 0.750                                                                               |                                                                                     |                                                                                     |
| Satd. Flow (perm)                                          | 73                                                                                | 5085                                                                                                                                                                                                                                                  | 1583                                                                              | 183                                                                               | 5085                                                                                                                                                                                                                                                  | 1583                                                                              | 0                                                                                   | 1683                                                                                                                                                                    | 0                                                                                   | 1397                                                                                | 1606                                                                                | 0                                                                                   |
| Satd. Flow (RTOR)                                          |                                                                                   |                                                                                                                                                                                                                                                       | 18                                                                                |                                                                                   |                                                                                                                                                                                                                                                       | 26                                                                                |                                                                                     | 5                                                                                                                                                                       |                                                                                     |                                                                                     | 6                                                                                   |                                                                                     |
| Lane Group Flow (vph)                                      | 73                                                                                | 1923                                                                                                                                                                                                                                                  | 5                                                                                 | 1                                                                                 | 3192                                                                                                                                                                                                                                                  | 26                                                                                | 0                                                                                   | 11                                                                                                                                                                      | 0                                                                                   | 23                                                                                  | 64                                                                                  | 0                                                                                   |
| Turn Type                                                  | Perm                                                                              | NA                                                                                                                                                                                                                                                    | Perm                                                                              | Perm                                                                              | NA                                                                                                                                                                                                                                                    | Perm                                                                              | Perm                                                                                | NA                                                                                                                                                                      |                                                                                     | Perm                                                                                | NA                                                                                  |                                                                                     |
| Protected Phases                                           |                                                                                   | 2                                                                                                                                                                                                                                                     |                                                                                   |                                                                                   | 6                                                                                                                                                                                                                                                     |                                                                                   |                                                                                     | 8                                                                                                                                                                       |                                                                                     |                                                                                     | 4                                                                                   |                                                                                     |
| Permitted Phases                                           | 2                                                                                 |                                                                                                                                                                                                                                                       | 2                                                                                 | 6                                                                                 |                                                                                                                                                                                                                                                       | 6                                                                                 | 8                                                                                   |                                                                                                                                                                         |                                                                                     | 4                                                                                   |                                                                                     |                                                                                     |
| Detector Phase                                             | 2                                                                                 | 2                                                                                                                                                                                                                                                     | 2                                                                                 | 6                                                                                 | 6                                                                                                                                                                                                                                                     | 6                                                                                 | 8                                                                                   | 8                                                                                                                                                                       |                                                                                     | 4                                                                                   | 4                                                                                   |                                                                                     |
| Switch Phase                                               |                                                                                   |                                                                                                                                                                                                                                                       |                                                                                   |                                                                                   |                                                                                                                                                                                                                                                       |                                                                                   |                                                                                     |                                                                                                                                                                         |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Minimum Initial (s)                                        | 5.0                                                                               | 5.0                                                                                                                                                                                                                                                   | 5.0                                                                               | 5.0                                                                               | 5.0                                                                                                                                                                                                                                                   | 5.0                                                                               | 5.0                                                                                 | 5.0                                                                                                                                                                     |                                                                                     | 5.0                                                                                 | 5.0                                                                                 |                                                                                     |
| Minimum Split (s)                                          | 11.0                                                                              | 11.0                                                                                                                                                                                                                                                  | 11.0                                                                              | 11.0                                                                              | 11.0                                                                                                                                                                                                                                                  | 11.0                                                                              | 10.0                                                                                | 10.0                                                                                                                                                                    |                                                                                     | 10.0                                                                                | 10.0                                                                                |                                                                                     |
| Total Split (s)                                            | 109.0                                                                             | 109.0                                                                                                                                                                                                                                                 | 109.0                                                                             | 109.0                                                                             | 109.0                                                                                                                                                                                                                                                 | 109.0                                                                             | 11.0                                                                                | 11.0                                                                                                                                                                    |                                                                                     | 11.0                                                                                | 11.0                                                                                |                                                                                     |
| Total Split (%)                                            | 90.8%                                                                             | 90.8%                                                                                                                                                                                                                                                 | 90.8%                                                                             | 90.8%                                                                             | 90.8%                                                                                                                                                                                                                                                 | 90.8%                                                                             | 9.2%                                                                                | 9.2%                                                                                                                                                                    |                                                                                     | 9.2%                                                                                | 9.2%                                                                                |                                                                                     |
| Yellow Time (s)                                            | 4.0                                                                               | 4.0                                                                                                                                                                                                                                                   | 4.0                                                                               | 4.0                                                                               | 4.0                                                                                                                                                                                                                                                   | 4.0                                                                               | 3.0                                                                                 | 3.0                                                                                                                                                                     |                                                                                     | 3.0                                                                                 | 3.0                                                                                 |                                                                                     |
| All-Red Time (s)                                           | 2.0                                                                               | 2.0                                                                                                                                                                                                                                                   | 2.0                                                                               | 2.0                                                                               | 2.0                                                                                                                                                                                                                                                   | 2.0                                                                               | 2.0                                                                                 | 2.0                                                                                                                                                                     |                                                                                     | 2.0                                                                                 | 2.0                                                                                 |                                                                                     |
| Lost Time Adjust (s)                                       | 0.0                                                                               | 0.0                                                                                                                                                                                                                                                   | 0.0                                                                               | 0.0                                                                               | 0.0                                                                                                                                                                                                                                                   | 0.0                                                                               |                                                                                     | 0.0                                                                                                                                                                     |                                                                                     | 0.0                                                                                 | 0.0                                                                                 |                                                                                     |
| Total Lost Time (s)                                        | 6.0                                                                               | 6.0                                                                                                                                                                                                                                                   | 6.0                                                                               | 6.0                                                                               | 6.0                                                                                                                                                                                                                                                   | 6.0                                                                               |                                                                                     | 5.0                                                                                                                                                                     |                                                                                     | 5.0                                                                                 | 5.0                                                                                 |                                                                                     |
| Lead/Lag                                                   |                                                                                   |                                                                                                                                                                                                                                                       |                                                                                   |                                                                                   |                                                                                                                                                                                                                                                       |                                                                                   |                                                                                     |                                                                                                                                                                         |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Lead-Lag Optimize?                                         |                                                                                   |                                                                                                                                                                                                                                                       |                                                                                   |                                                                                   |                                                                                                                                                                                                                                                       |                                                                                   |                                                                                     |                                                                                                                                                                         |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Recall Mode                                                | C-Max                                                                             | C-Max                                                                                                                                                                                                                                                 | C-Max                                                                             | Max                                                                               | Max                                                                                                                                                                                                                                                   | Max                                                                               | Max                                                                                 | Max                                                                                                                                                                     |                                                                                     | Max                                                                                 | Max                                                                                 |                                                                                     |
| Act Effct Green (s)                                        | 103.0                                                                             | 103.0                                                                                                                                                                                                                                                 | 103.0                                                                             | 103.0                                                                             | 103.0                                                                                                                                                                                                                                                 | 103.0                                                                             |                                                                                     | 6.0                                                                                                                                                                     |                                                                                     | 6.0                                                                                 | 6.0                                                                                 |                                                                                     |
| Actuated g/C Ratio                                         | 0.86                                                                              | 0.86                                                                                                                                                                                                                                                  | 0.86                                                                              | 0.86                                                                              | 0.86                                                                                                                                                                                                                                                  | 0.86                                                                              |                                                                                     | 0.05                                                                                                                                                                    |                                                                                     | 0.05                                                                                | 0.05                                                                                |                                                                                     |
| v/c Ratio                                                  | 1.18                                                                              | 0.44                                                                                                                                                                                                                                                  | 0.00                                                                              | 0.01                                                                              | 0.73                                                                                                                                                                                                                                                  | 0.02                                                                              |                                                                                     | 0.13                                                                                                                                                                    |                                                                                     | 0.33                                                                                | 0.74                                                                                |                                                                                     |
| Control Delay (s/veh)                                      | 190.6                                                                             | 2.3                                                                                                                                                                                                                                                   | 0.2                                                                               | 1.0                                                                               | 4.8                                                                                                                                                                                                                                                   | 0.5                                                                               |                                                                                     | 44.7                                                                                                                                                                    |                                                                                     | 68.3                                                                                | 95.7                                                                                |                                                                                     |
| Queue Delay                                                | 0.0                                                                               | 0.0                                                                                                                                                                                                                                                   | 0.0                                                                               | 0.0                                                                               | 0.0                                                                                                                                                                                                                                                   | 0.0                                                                               |                                                                                     | 0.0                                                                                                                                                                     |                                                                                     | 0.0                                                                                 | 0.0                                                                                 |                                                                                     |
| Total Delay (s/veh)                                        | 190.6                                                                             | 2.3                                                                                                                                                                                                                                                   | 0.2                                                                               | 1.0                                                                               | 4.8                                                                                                                                                                                                                                                   | 0.5                                                                               |                                                                                     | 44.7                                                                                                                                                                    |                                                                                     | 68.3                                                                                | 95.7                                                                                |                                                                                     |
| LOS                                                        | F                                                                                 | A                                                                                                                                                                                                                                                     | A                                                                                 | A                                                                                 | A                                                                                                                                                                                                                                                     | A                                                                                 |                                                                                     | D                                                                                                                                                                       |                                                                                     | E                                                                                   | F                                                                                   |                                                                                     |
| Approach Delay (s/veh)                                     |                                                                                   | 9.1                                                                                                                                                                                                                                                   |                                                                                   |                                                                                   | 4.8                                                                                                                                                                                                                                                   |                                                                                   |                                                                                     | 44.7                                                                                                                                                                    |                                                                                     |                                                                                     | 88.4                                                                                |                                                                                     |
| Approach LOS                                               |                                                                                   | A                                                                                                                                                                                                                                                     |                                                                                   |                                                                                   | A                                                                                                                                                                                                                                                     |                                                                                   |                                                                                     | D                                                                                                                                                                       |                                                                                     |                                                                                     | F                                                                                   |                                                                                     |
| Queue Length 50th (ft)                                     | ~17                                                                               | 86                                                                                                                                                                                                                                                    | 0                                                                                 | 0                                                                                 | 116                                                                                                                                                                                                                                                   | 0                                                                                 |                                                                                     | 5                                                                                                                                                                       |                                                                                     | 18                                                                                  | 45                                                                                  |                                                                                     |
| Queue Length 95th (ft)                                     | #119                                                                              | 99                                                                                                                                                                                                                                                    | 1                                                                                 | m0                                                                                | 123                                                                                                                                                                                                                                                   | m1                                                                                |                                                                                     | 25                                                                                                                                                                      |                                                                                     | 46                                                                                  | #124                                                                                |                                                                                     |
| Internal Link Dist (ft)                                    |                                                                                   | 2474                                                                                                                                                                                                                                                  |                                                                                   |                                                                                   | 750                                                                                                                                                                                                                                                   |                                                                                   |                                                                                     | 6246                                                                                                                                                                    |                                                                                     |                                                                                     | 419                                                                                 |                                                                                     |
| Turn Bay Length (ft)                                       | 300                                                                               |                                                                                                                                                                                                                                                       | 400                                                                               | 315                                                                               |                                                                                                                                                                                                                                                       | 370                                                                               |                                                                                     |                                                                                                                                                                         |                                                                                     | 50                                                                                  |                                                                                     |                                                                                     |
| Base Capacity (vph)                                        | 62                                                                                | 4364                                                                                                                                                                                                                                                  | 1361                                                                              | 157                                                                               | 4364                                                                                                                                                                                                                                                  | 1362                                                                              |                                                                                     | 88                                                                                                                                                                      |                                                                                     | 69                                                                                  | 86                                                                                  |                                                                                     |
| 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                                                                                   |                                                                                     |
| Reduced v/c Ratio                                          | 1.18                                                                              | 0.44                                                                                                                                                                                                                                                  | 0.00                                                                              | 0.01                                                                              | 0.73                                                                                                                                                                                                                                                  | 0.02                                                                              |                                                                                     | 0.13                                                                                                                                                                    |                                                                                     | 0.33                                                                                | 0.74                                                                                |                                                                                     |
| Intersection Summary                                       |                                                                                   |                                                                                                                                                                                                                                                       |                                                                                   |                                                                                   |                                                                                                                                                                                                                                                       |                                                                                   |                                                                                     |                                                                                                                                                                         |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Cycle Length: 120                                          |                                                                                   |                                                                                                                                                                                                                                                       |                                                                                   |                                                                                   |                                                                                                                                                                                                                                                       |                                                                                   |                                                                                     |                                                                                                                                                                         |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Actuated Cycle Length: 120                                 |                                                                                   |                                                                                                                                                                                                                                                       |                                                                                   |                                                                                   |                                                                                                                                                                                                                                                       |                                                                                   |                                                                                     |                                                                                                                                                                         |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Offset: 0 (0%), Referenced to phase 2:EBTL, Start of Green |                                                                                   |                                                                                                                                                                                                                                                       |                                                                                   |                                                                                   |                                                                                                                                                                                                                                                       |                                                                                   |                                                                                     |                                                                                                                                                                         |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Natural Cycle: 60                                          |                                                                                   |                                                                                                                                                                                                                                                       |                                                                                   |                                                                                   |                                                                                                                                                                                                                                                       |                                                                                   |                                                                                     |                                                                                                                                                                         |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Control Type: Actuated-Coordinated                         |                                                                                   |                                                                                                                                                                                                                                                       |                                                                                   |                                                                                   |                                                                                                                                                                                                                                                       |                                                                                   |                                                                                     |                                                                                                                                                                         |                                                                                     |                                                                                     |                                                                                     |                                                                                     |

## Timings

1: Mohawk Road & E Woodmen Road

Total Traffic Conditions  
AM Peak Traffic Hour - 2030

Maximum v/c Ratio: 1.18

Intersection Signal Delay (s/veh): 7.9

Intersection LOS: A

Intersection Capacity Utilization 73.3%

ICU Level of Service D

Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

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

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 1: Mohawk Road & E Woodmen Road



# Timings

## 2: Banning Lewis Parkway & E Woodmen Road

Total Traffic Conditions  
AM Peak Traffic Hour - 2030

|                         |  |  |  |  |  |  |   |  |  |  |  |  |
|-------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Lane Group              | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | WBR                                                                               | NBL                                                                                 | NBT                                                                                 | NBR                                                                                 | SBL                                                                                 | SBT                                                                                 | SBR                                                                                 |
| Lane Configurations     |  |  |  |  |  |  |  |  |  |  |  |  |
| Traffic Volume (vph)    | 336                                                                               | 1059                                                                              | 397                                                                               | 418                                                                               | 2130                                                                              | 116                                                                               | 347                                                                                 | 167                                                                                 | 236                                                                                 | 337                                                                                 | 281                                                                                 | 485                                                                                 |
| Future Volume (vph)     | 336                                                                               | 1059                                                                              | 397                                                                               | 418                                                                               | 2130                                                                              | 116                                                                               | 347                                                                                 | 167                                                                                 | 236                                                                                 | 337                                                                                 | 281                                                                                 | 485                                                                                 |
| Satd. Flow (prot)       | 3433                                                                              | 5085                                                                              | 1583                                                                              | 3433                                                                              | 5085                                                                              | 1583                                                                              | 3433                                                                                | 5085                                                                                | 1583                                                                                | 3433                                                                                | 5085                                                                                | 1583                                                                                |
| Flt Permitted           | 0.950                                                                             |                                                                                   |                                                                                   | 0.950                                                                             |                                                                                   |                                                                                   | 0.950                                                                               |                                                                                     |                                                                                     | 0.950                                                                               |                                                                                     |                                                                                     |
| Satd. Flow (perm)       | 3433                                                                              | 5085                                                                              | 1583                                                                              | 3433                                                                              | 5085                                                                              | 1583                                                                              | 3433                                                                                | 5085                                                                                | 1583                                                                                | 3433                                                                                | 5085                                                                                | 1583                                                                                |
| Satd. Flow (RTOR)       |                                                                                   |                                                                                   | 338                                                                               |                                                                                   |                                                                                   | 245                                                                               |                                                                                     |                                                                                     | 257                                                                                 |                                                                                     |                                                                                     | 251                                                                                 |
| Lane Group Flow (vph)   | 365                                                                               | 1151                                                                              | 432                                                                               | 454                                                                               | 2315                                                                              | 126                                                                               | 377                                                                                 | 182                                                                                 | 257                                                                                 | 366                                                                                 | 305                                                                                 | 527                                                                                 |
| Turn Type               | Prot                                                                              | NA                                                                                | Free                                                                              | Prot                                                                              | NA                                                                                | Free                                                                              | Prot                                                                                | NA                                                                                  | Free                                                                                | Prot                                                                                | NA                                                                                  | Free                                                                                |
| Protected Phases        | 5                                                                                 | 2                                                                                 |                                                                                   | 1                                                                                 | 6                                                                                 |                                                                                   | 7                                                                                   | 4                                                                                   |                                                                                     | 3                                                                                   | 8                                                                                   |                                                                                     |
| Permitted Phases        |                                                                                   |                                                                                   | Free                                                                              |                                                                                   |                                                                                   | Free                                                                              |                                                                                     |                                                                                     | Free                                                                                |                                                                                     |                                                                                     | Free                                                                                |
| Detector Phase          | 5                                                                                 | 2                                                                                 |                                                                                   | 1                                                                                 | 6                                                                                 |                                                                                   | 7                                                                                   | 4                                                                                   |                                                                                     | 3                                                                                   | 8                                                                                   |                                                                                     |
| Switch Phase            |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Minimum Initial (s)     | 5.0                                                                               | 5.0                                                                               |                                                                                   | 5.0                                                                               | 5.0                                                                               |                                                                                   | 5.0                                                                                 | 5.0                                                                                 |                                                                                     | 5.0                                                                                 | 5.0                                                                                 |                                                                                     |
| Minimum Split (s)       | 11.0                                                                              | 11.0                                                                              |                                                                                   | 11.0                                                                              | 11.0                                                                              |                                                                                   | 11.0                                                                                | 11.0                                                                                |                                                                                     | 11.0                                                                                | 11.0                                                                                |                                                                                     |
| Total Split (s)         | 20.0                                                                              | 57.0                                                                              |                                                                                   | 29.0                                                                              | 66.0                                                                              |                                                                                   | 20.0                                                                                | 12.0                                                                                |                                                                                     | 22.0                                                                                | 14.0                                                                                |                                                                                     |
| Total Split (%)         | 16.7%                                                                             | 47.5%                                                                             |                                                                                   | 24.2%                                                                             | 55.0%                                                                             |                                                                                   | 16.7%                                                                               | 10.0%                                                                               |                                                                                     | 18.3%                                                                               | 11.7%                                                                               |                                                                                     |
| Yellow Time (s)         | 4.0                                                                               | 4.0                                                                               |                                                                                   | 4.0                                                                               | 4.0                                                                               |                                                                                   | 4.0                                                                                 | 4.0                                                                                 |                                                                                     | 4.0                                                                                 | 4.0                                                                                 |                                                                                     |
| All-Red Time (s)        | 2.0                                                                               | 2.0                                                                               |                                                                                   | 2.0                                                                               | 2.0                                                                               |                                                                                   | 2.0                                                                                 | 2.0                                                                                 |                                                                                     | 2.0                                                                                 | 2.0                                                                                 |                                                                                     |
| Lost Time Adjust (s)    | 0.0                                                                               | 0.0                                                                               |                                                                                   | 0.0                                                                               | 0.0                                                                               |                                                                                   | 0.0                                                                                 | 0.0                                                                                 |                                                                                     | 0.0                                                                                 | 0.0                                                                                 |                                                                                     |
| Total Lost Time (s)     | 6.0                                                                               | 6.0                                                                               |                                                                                   | 6.0                                                                               | 6.0                                                                               |                                                                                   | 6.0                                                                                 | 6.0                                                                                 |                                                                                     | 6.0                                                                                 | 6.0                                                                                 |                                                                                     |
| Lead/Lag                | Lead                                                                              | Lag                                                                               |                                                                                   | Lead                                                                              | Lag                                                                               |                                                                                   | Lead                                                                                | Lag                                                                                 |                                                                                     | Lead                                                                                | Lag                                                                                 |                                                                                     |
| Lead-Lag Optimize?      | Yes                                                                               | Yes                                                                               |                                                                                   | Yes                                                                               | Yes                                                                               |                                                                                   | Yes                                                                                 | Yes                                                                                 |                                                                                     | Yes                                                                                 | Yes                                                                                 |                                                                                     |
| Recall Mode             | None                                                                              | C-Max                                                                             |                                                                                   | None                                                                              | C-Max                                                                             |                                                                                   | Max                                                                                 | None                                                                                |                                                                                     | Max                                                                                 | None                                                                                |                                                                                     |
| Act Effect Green (s)    | 14.0                                                                              | 53.6                                                                              | 120.0                                                                             | 20.4                                                                              | 60.0                                                                              | 120.0                                                                             | 14.0                                                                                | 6.0                                                                                 | 120.0                                                                               | 16.0                                                                                | 8.0                                                                                 | 120.0                                                                               |
| Actuated g/C Ratio      | 0.12                                                                              | 0.45                                                                              | 1.00                                                                              | 0.17                                                                              | 0.50                                                                              | 1.00                                                                              | 0.12                                                                                | 0.05                                                                                | 1.00                                                                                | 0.13                                                                                | 0.07                                                                                | 1.00                                                                                |
| v/c Ratio               | 0.91                                                                              | 0.51                                                                              | 0.27                                                                              | 0.78                                                                              | 0.91                                                                              | 0.08                                                                              | 0.94                                                                                | 0.72                                                                                | 0.16                                                                                | 0.80                                                                                | 0.90                                                                                | 0.33                                                                                |
| Control Delay (s/veh)   | 77.0                                                                              | 27.7                                                                              | 0.4                                                                               | 46.0                                                                              | 26.4                                                                              | 0.0                                                                               | 88.3                                                                                | 71.6                                                                                | 0.2                                                                                 | 64.6                                                                                | 84.8                                                                                | 0.6                                                                                 |
| 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                                                                                 |
| Total Delay (s/veh)     | 77.0                                                                              | 27.7                                                                              | 0.4                                                                               | 46.0                                                                              | 26.4                                                                              | 0.0                                                                               | 88.3                                                                                | 71.6                                                                                | 0.2                                                                                 | 64.6                                                                                | 84.8                                                                                | 0.6                                                                                 |
| LOS                     | E                                                                                 | C                                                                                 | A                                                                                 | D                                                                                 | C                                                                                 | A                                                                                 | F                                                                                   | E                                                                                   | A                                                                                   | E                                                                                   | F                                                                                   | A                                                                                   |
| Approach Delay (s/veh)  |                                                                                   | 30.9                                                                              |                                                                                   |                                                                                   | 28.3                                                                              |                                                                                   |                                                                                     | 56.8                                                                                |                                                                                     |                                                                                     | 41.6                                                                                |                                                                                     |
| Approach LOS            |                                                                                   | C                                                                                 |                                                                                   |                                                                                   | C                                                                                 |                                                                                   |                                                                                     | E                                                                                   |                                                                                     |                                                                                     | D                                                                                   |                                                                                     |
| Queue Length 50th (ft)  | 146                                                                               | 243                                                                               | 0                                                                                 | 180                                                                               | 656                                                                               | 0                                                                                 | 155                                                                                 | 49                                                                                  | 0                                                                                   | 143                                                                                 | 87                                                                                  | 0                                                                                   |
| Queue Length 95th (ft)  | #236                                                                              | 309                                                                               | 0                                                                                 | m174                                                                              | m647                                                                              | m0                                                                                | #250                                                                                | #83                                                                                 | 0                                                                                   | #211                                                                                | #145                                                                                | 0                                                                                   |
| Internal Link Dist (ft) |                                                                                   | 712                                                                               |                                                                                   |                                                                                   | 722                                                                               |                                                                                   |                                                                                     | 667                                                                                 |                                                                                     |                                                                                     | 695                                                                                 |                                                                                     |
| Turn Bay Length (ft)    | 285                                                                               |                                                                                   |                                                                                   | 285                                                                               |                                                                                   | 225                                                                               | 185                                                                                 |                                                                                     | 185                                                                                 | 185                                                                                 |                                                                                     | 185                                                                                 |
| Base Capacity (vph)     | 400                                                                               | 2272                                                                              | 1583                                                                              | 657                                                                               | 2542                                                                              | 1583                                                                              | 400                                                                                 | 254                                                                                 | 1583                                                                                | 457                                                                                 | 339                                                                                 | 1583                                                                                |
| Starvation Cap Reductn  | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                   | 0                                                                                   | 0                                                                                   | 0                                                                                   | 0                                                                                   | 0                                                                                   |
| Spillback Cap Reductn   | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                   | 0                                                                                   | 0                                                                                   | 0                                                                                   | 0                                                                                   | 0                                                                                   |
| Storage Cap Reductn     | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                   | 0                                                                                   | 0                                                                                   | 0                                                                                   | 0                                                                                   | 0                                                                                   |
| Reduced v/c Ratio       | 0.91                                                                              | 0.51                                                                              | 0.27                                                                              | 0.69                                                                              | 0.91                                                                              | 0.08                                                                              | 0.94                                                                                | 0.72                                                                                | 0.16                                                                                | 0.80                                                                                | 0.90                                                                                | 0.33                                                                                |

### Intersection Summary

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Green

Natural Cycle: 90

Control Type: Actuated-Coordinated

Timings  
2: Banning Lewis Parkway & E Woodmen Road

Total Traffic Conditions  
AM Peak Traffic Hour - 2030

Maximum v/c Ratio: 0.94

Intersection Signal Delay (s/veh): 34.8

Intersection LOS: C

Intersection Capacity Utilization 86.1%

ICU Level of Service E

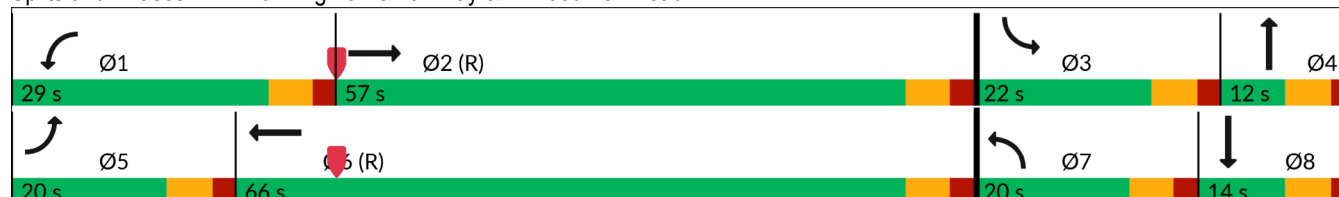
Analysis Period (min) 15

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

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 2: Banning Lewis Parkway & E Woodmen Road



Timings

3: Golden Sage Road & E Woodmen Road

Total Traffic Conditions

AM Peak Traffic Hour - 2030

|                                                                       |  |  |  |  |  |  |  |  |  |  |  |  |
|-----------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Lane Group                                                            | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | WBR                                                                               | NBL                                                                                 | NBT                                                                                 | NBR                                                                                 | SBL                                                                                 | SBT                                                                                 | SBR                                                                                 |
| Lane Configurations                                                   |  |  |  |  |  |  |  |  |  |  |  |  |
| Traffic Volume (vph)                                                  | 132                                                                               | 1409                                                                              | 90                                                                                | 30                                                                                | 2031                                                                              | 173                                                                               | 152                                                                                 | 2                                                                                   | 19                                                                                  | 115                                                                                 | 9                                                                                   | 474                                                                                 |
| Future Volume (vph)                                                   | 132                                                                               | 1409                                                                              | 90                                                                                | 30                                                                                | 2031                                                                              | 173                                                                               | 152                                                                                 | 2                                                                                   | 19                                                                                  | 115                                                                                 | 9                                                                                   | 474                                                                                 |
| Satd. Flow (prot)                                                     | 1770                                                                              | 3539                                                                              | 1583                                                                              | 1770                                                                              | 5085                                                                              | 1583                                                                              | 1770                                                                                | 1863                                                                                | 1583                                                                                | 1770                                                                                | 1589                                                                                | 0                                                                                   |
| Flt Permitted                                                         | 0.148                                                                             |                                                                                   |                                                                                   | 0.160                                                                             |                                                                                   |                                                                                   | 0.286                                                                               |                                                                                     |                                                                                     | 0.757                                                                               |                                                                                     |                                                                                     |
| Satd. Flow (perm)                                                     | 276                                                                               | 3539                                                                              | 1583                                                                              | 298                                                                               | 5085                                                                              | 1583                                                                              | 533                                                                                 | 1863                                                                                | 1583                                                                                | 1410                                                                                | 1589                                                                                | 0                                                                                   |
| Satd. Flow (RTOR)                                                     |                                                                                   |                                                                                   | 145                                                                               |                                                                                   |                                                                                   | 188                                                                               |                                                                                     |                                                                                     | 255                                                                                 |                                                                                     | 188                                                                                 |                                                                                     |
| Lane Group Flow (vph)                                                 | 143                                                                               | 1532                                                                              | 98                                                                                | 33                                                                                | 2208                                                                              | 188                                                                               | 165                                                                                 | 2                                                                                   | 21                                                                                  | 125                                                                                 | 525                                                                                 | 0                                                                                   |
| Turn Type                                                             | pm+pt                                                                             | NA                                                                                | Perm                                                                              | pm+pt                                                                             | NA                                                                                | Perm                                                                              | Perm                                                                                | NA                                                                                  | Free                                                                                | Perm                                                                                | NA                                                                                  |                                                                                     |
| Protected Phases                                                      | 5                                                                                 | 2                                                                                 |                                                                                   | 1                                                                                 | 6                                                                                 |                                                                                   |                                                                                     | 4                                                                                   |                                                                                     |                                                                                     | 8                                                                                   |                                                                                     |
| Permitted Phases                                                      | 2                                                                                 |                                                                                   | 2                                                                                 | 6                                                                                 |                                                                                   | 6                                                                                 | 4                                                                                   |                                                                                     | Free                                                                                | 8                                                                                   |                                                                                     |                                                                                     |
| Detector Phase                                                        | 5                                                                                 | 2                                                                                 | 2                                                                                 | 1                                                                                 | 6                                                                                 | 6                                                                                 | 4                                                                                   | 4                                                                                   |                                                                                     | 8                                                                                   | 8                                                                                   |                                                                                     |
| Switch Phase                                                          |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Minimum Initial (s)                                                   | 5.0                                                                               | 5.0                                                                               | 5.0                                                                               | 5.0                                                                               | 5.0                                                                               | 5.0                                                                               | 5.0                                                                                 | 5.0                                                                                 |                                                                                     | 5.0                                                                                 | 5.0                                                                                 |                                                                                     |
| Minimum Split (s)                                                     | 11.0                                                                              | 11.0                                                                              | 11.0                                                                              | 11.0                                                                              | 11.0                                                                              | 11.0                                                                              | 10.0                                                                                | 10.0                                                                                |                                                                                     | 10.0                                                                                | 10.0                                                                                |                                                                                     |
| Total Split (s)                                                       | 11.0                                                                              | 30.0                                                                              | 30.0                                                                              | 11.0                                                                              | 30.0                                                                              | 30.0                                                                              | 19.0                                                                                | 19.0                                                                                |                                                                                     | 19.0                                                                                | 19.0                                                                                |                                                                                     |
| Total Split (%)                                                       | 18.3%                                                                             | 50.0%                                                                             | 50.0%                                                                             | 18.3%                                                                             | 50.0%                                                                             | 50.0%                                                                             | 31.7%                                                                               | 31.7%                                                                               |                                                                                     | 31.7%                                                                               | 31.7%                                                                               |                                                                                     |
| Yellow Time (s)                                                       | 4.0                                                                               | 4.0                                                                               | 4.0                                                                               | 4.0                                                                               | 4.0                                                                               | 4.0                                                                               | 3.0                                                                                 | 3.0                                                                                 |                                                                                     | 3.0                                                                                 | 3.0                                                                                 |                                                                                     |
| All-Red Time (s)                                                      | 2.0                                                                               | 2.0                                                                               | 2.0                                                                               | 2.0                                                                               | 2.0                                                                               | 2.0                                                                               | 2.0                                                                                 | 2.0                                                                                 |                                                                                     | 2.0                                                                                 | 2.0                                                                                 |                                                                                     |
| Lost Time Adjust (s)                                                  | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               | 0.0                                                                                 | 0.0                                                                                 |                                                                                     | 0.0                                                                                 | 0.0                                                                                 |                                                                                     |
| Total Lost Time (s)                                                   | 6.0                                                                               | 6.0                                                                               | 6.0                                                                               | 6.0                                                                               | 6.0                                                                               | 6.0                                                                               | 5.0                                                                                 | 5.0                                                                                 |                                                                                     | 5.0                                                                                 | 5.0                                                                                 |                                                                                     |
| Lead/Lag                                                              | Lead                                                                              | Lag                                                                               | Lag                                                                               | Lead                                                                              | Lag                                                                               | Lag                                                                               |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Lead-Lag Optimize?                                                    | Yes                                                                               | Yes                                                                               | Yes                                                                               | Yes                                                                               | Yes                                                                               | Yes                                                                               |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Recall Mode                                                           | None                                                                              | C-Max                                                                             | C-Max                                                                             | None                                                                              | C-Max                                                                             | C-Max                                                                             | Max                                                                                 | Max                                                                                 |                                                                                     | Max                                                                                 | Max                                                                                 |                                                                                     |
| Act Effect Green (s)                                                  | 32.6                                                                              | 30.6                                                                              | 30.6                                                                              | 30.2                                                                              | 26.2                                                                              | 26.2                                                                              | 14.0                                                                                | 14.0                                                                                | 60.0                                                                                | 14.0                                                                                | 14.0                                                                                |                                                                                     |
| Actuated g/C Ratio                                                    | 0.54                                                                              | 0.51                                                                              | 0.51                                                                              | 0.50                                                                              | 0.44                                                                              | 0.44                                                                              | 0.23                                                                                | 0.23                                                                                | 1.00                                                                                | 0.23                                                                                | 0.23                                                                                |                                                                                     |
| v/c Ratio                                                             | 0.52                                                                              | 0.85                                                                              | 0.11                                                                              | 0.12                                                                              | 0.99                                                                              | 0.24                                                                              | 1.33                                                                                | 0.00                                                                                | 0.01                                                                                | 0.38                                                                                | 1.02                                                                                |                                                                                     |
| Control Delay (s/veh)                                                 | 20.2                                                                              | 22.6                                                                              | 2.7                                                                               | 6.7                                                                               | 38.7                                                                              | 3.1                                                                               | 221.0                                                                               | 17.5                                                                                | 0.0                                                                                 | 23.4                                                                                | 64.2                                                                                |                                                                                     |
| Queue Delay                                                           | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               | 0.0                                                                                 | 0.0                                                                                 | 0.0                                                                                 | 0.0                                                                                 | 0.0                                                                                 |                                                                                     |
| Total Delay (s/veh)                                                   | 20.2                                                                              | 22.6                                                                              | 2.7                                                                               | 6.7                                                                               | 38.7                                                                              | 3.1                                                                               | 221.0                                                                               | 17.5                                                                                | 0.0                                                                                 | 23.4                                                                                | 64.2                                                                                |                                                                                     |
| LOS                                                                   | C                                                                                 | C                                                                                 | A                                                                                 | A                                                                                 | D                                                                                 | A                                                                                 | F                                                                                   | B                                                                                   | A                                                                                   | C                                                                                   | E                                                                                   |                                                                                     |
| Approach Delay (s/veh)                                                |                                                                                   | 21.3                                                                              |                                                                                   |                                                                                   | 35.5                                                                              |                                                                                   |                                                                                     | 194.1                                                                               |                                                                                     |                                                                                     | 56.4                                                                                |                                                                                     |
| Approach LOS                                                          |                                                                                   | C                                                                                 |                                                                                   |                                                                                   | D                                                                                 |                                                                                   |                                                                                     | F                                                                                   |                                                                                     |                                                                                     | E                                                                                   |                                                                                     |
| Queue Length 50th (ft)                                                | 40                                                                                | 283                                                                               | 0                                                                                 | 4                                                                                 | ~339                                                                              | 0                                                                                 | ~80                                                                                 | 1                                                                                   | 0                                                                                   | 38                                                                                  | ~135                                                                                |                                                                                     |
| Queue Length 95th (ft)                                                | m83                                                                               | #603                                                                              | m18                                                                               | 13                                                                                | #430                                                                              | 32                                                                                | #182                                                                                | 5                                                                                   | 0                                                                                   | 80                                                                                  | #318                                                                                |                                                                                     |
| Internal Link Dist (ft)                                               |                                                                                   | 600                                                                               |                                                                                   |                                                                                   | 542                                                                               |                                                                                   |                                                                                     | 565                                                                                 |                                                                                     |                                                                                     | 379                                                                                 |                                                                                     |
| Turn Bay Length (ft)                                                  | 530                                                                               |                                                                                   | 380                                                                               | 330                                                                               |                                                                                   | 360                                                                               | 125                                                                                 |                                                                                     | 195                                                                                 | 110                                                                                 |                                                                                     |                                                                                     |
| Base Capacity (vph)                                                   | 274                                                                               | 1804                                                                              | 878                                                                               | 272                                                                               | 2220                                                                              | 797                                                                               | 124                                                                                 | 434                                                                                 | 1583                                                                                | 329                                                                                 | 514                                                                                 |                                                                                     |
| Starvation Cap Reductn                                                | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                   | 0                                                                                   | 0                                                                                   | 0                                                                                   | 0                                                                                   |                                                                                     |
| Spillback Cap Reductn                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                   | 0                                                                                   | 0                                                                                   | 0                                                                                   | 0                                                                                   |                                                                                     |
| Storage Cap Reductn                                                   | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                   | 0                                                                                   | 0                                                                                   | 0                                                                                   | 0                                                                                   |                                                                                     |
| Reduced v/c Ratio                                                     | 0.52                                                                              | 0.85                                                                              | 0.11                                                                              | 0.12                                                                              | 0.99                                                                              | 0.24                                                                              | 1.33                                                                                | 0.00                                                                                | 0.01                                                                                | 0.38                                                                                | 1.02                                                                                |                                                                                     |
| Intersection Summary                                                  |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Cycle Length: 60                                                      |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Actuated Cycle Length: 60                                             |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Natural Cycle: 120                                                    |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Control Type: Actuated-Coordinated                                    |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |

## Timings

### 3: Golden Sage Road & E Woodmen Road

Total Traffic Conditions  
AM Peak Traffic Hour - 2030

Maximum v/c Ratio: 1.33

Intersection Signal Delay (s/veh): 39.1

Intersection LOS: D

Intersection Capacity Utilization 103.1%

ICU Level of Service G

Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

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

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 3: Golden Sage Road & E Woodmen Road



HCM Unsignalized Intersection Capacity Analysis  
4: Golden Sage Road & Woodmen Frontage Road

Total Traffic Conditions  
AM Peak Traffic Hour - 2030

|                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
|-----------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|
|                                   |  |  |  |  |  |  |
| Movement                          | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | NBL                                                                               | NBR                                                                               |
| Lane Configurations               |  |                                                                                   |                                                                                   |  |  |                                                                                   |
| Traffic Volume (veh/h)            | 5                                                                                 | 242                                                                               | 357                                                                               | 5                                                                                 | 307                                                                               | 5                                                                                 |
| Future Volume (Veh/h)             | 5                                                                                 | 242                                                                               | 357                                                                               | 5                                                                                 | 307                                                                               | 5                                                                                 |
| Sign Control                      | Stop                                                                              |                                                                                   |                                                                                   | Stop                                                                              | Free                                                                              |                                                                                   |
| Grade                             | 0%                                                                                |                                                                                   |                                                                                   | 0%                                                                                | 0%                                                                                |                                                                                   |
| Peak Hour Factor                  | 0.92                                                                              | 0.92                                                                              | 0.92                                                                              | 0.92                                                                              | 0.92                                                                              | 0.92                                                                              |
| Hourly flow rate (vph)            | 5                                                                                 | 263                                                                               | 388                                                                               | 5                                                                                 | 334                                                                               | 5                                                                                 |
| Pedestrians                       |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Lane Width (ft)                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Walking Speed (ft/s)              |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Percent Blockage                  |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Right turn flare (veh)            |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Median type                       |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   | None                                                                              |
| Median storage veh                |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Upstream signal (ft)              |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   | 459                                                                               |
| pX, platoon unblocked             |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| vC, conflicting volume            | 673                                                                               | 0                                                                                 | 936                                                                               | 671                                                                               | 0                                                                                 |                                                                                   |
| vC1, stage 1 conf vol             |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| vC2, stage 2 conf vol             |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| vCu, unblocked vol                | 673                                                                               | 0                                                                                 | 936                                                                               | 671                                                                               | 0                                                                                 |                                                                                   |
| tC, single (s)                    | 6.5                                                                               | 6.2                                                                               | 7.1                                                                               | 6.5                                                                               | 4.1                                                                               |                                                                                   |
| tC, 2 stage (s)                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| tF (s)                            | 4.0                                                                               | 3.3                                                                               | 3.5                                                                               | 4.0                                                                               | 2.2                                                                               |                                                                                   |
| p0 queue free %                   | 98                                                                                | 76                                                                                | 0                                                                                 | 98                                                                                | 79                                                                                |                                                                                   |
| cM capacity (veh/h)               | 299                                                                               | 1085                                                                              | 154                                                                               | 300                                                                               | 1623                                                                              |                                                                                   |
| Direction, Lane #                 | EB 1                                                                              | WB 1                                                                              | NB 1                                                                              |                                                                                   |                                                                                   |                                                                                   |
| Volume Total                      | 268                                                                               | 393                                                                               | 339                                                                               |                                                                                   |                                                                                   |                                                                                   |
| Volume Left                       | 0                                                                                 | 388                                                                               | 334                                                                               |                                                                                   |                                                                                   |                                                                                   |
| Volume Right                      | 263                                                                               | 0                                                                                 | 5                                                                                 |                                                                                   |                                                                                   |                                                                                   |
| cSH                               | 1034                                                                              | 155                                                                               | 1623                                                                              |                                                                                   |                                                                                   |                                                                                   |
| Volume to Capacity                | 0.26                                                                              | 2.53                                                                              | 0.21                                                                              |                                                                                   |                                                                                   |                                                                                   |
| Queue Length 95th (ft)            | 26                                                                                | 851                                                                               | 19                                                                                |                                                                                   |                                                                                   |                                                                                   |
| Control Delay (s/veh)             | 9.7                                                                               | 752.4                                                                             | 7.7                                                                               |                                                                                   |                                                                                   |                                                                                   |
| Lane LOS                          | A                                                                                 | F                                                                                 | A                                                                                 |                                                                                   |                                                                                   |                                                                                   |
| Approach Delay (s/veh)            | 9.7                                                                               | 752.4                                                                             | 7.7                                                                               |                                                                                   |                                                                                   |                                                                                   |
| Approach LOS                      | A                                                                                 | F                                                                                 |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Intersection Summary              |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Average Delay                     |                                                                                   |                                                                                   | 300.9                                                                             |                                                                                   |                                                                                   |                                                                                   |
| Intersection Capacity Utilization |                                                                                   |                                                                                   | 62.6%                                                                             | ICU Level of Service                                                              | B                                                                                 |                                                                                   |
| Analysis Period (min)             |                                                                                   |                                                                                   | 15                                                                                |                                                                                   |                                                                                   |                                                                                   |

| Intersection             |        |                                                                                   |        |       |                                                                                   |       |        |                                                                                   |      |       |                                                                                     |      |
|--------------------------|--------|-----------------------------------------------------------------------------------|--------|-------|-----------------------------------------------------------------------------------|-------|--------|-----------------------------------------------------------------------------------|------|-------|-------------------------------------------------------------------------------------|------|
| Int Delay, s/veh         | 3.6    |                                                                                   |        |       |                                                                                   |       |        |                                                                                   |      |       |                                                                                     |      |
| Movement                 | EBL    | EBT                                                                               | EBR    | WBL   | WBT                                                                               | WBR   | NBL    | NBT                                                                               | NBR  | SBL   | SBT                                                                                 | SBR  |
| Lane Configurations      |        |  |        |       |  |       |        |  |      |       |  |      |
| Traffic Vol, veh/h       | 1      | 6                                                                                 | 11     | 40    | 3                                                                                 | 5     | 8      | 34                                                                                | 40   | 2     | 38                                                                                  | 5    |
| Future Vol, veh/h        | 1      | 6                                                                                 | 11     | 40    | 3                                                                                 | 5     | 8      | 34                                                                                | 40   | 2     | 38                                                                                  | 5    |
| Conflicting Peds, #/hr   | 0      | 0                                                                                 | 0      | 0     | 0                                                                                 | 0     | 0      | 0                                                                                 | 0    | 0     | 0                                                                                   | 0    |
| Sign Control             | Stop   | Stop                                                                              | Stop   | Stop  | Stop                                                                              | Stop  | Free   | Free                                                                              | Free | Free  | Free                                                                                | Free |
| RT Channelized           | -      | -                                                                                 | None   | -     | -                                                                                 | None  | -      | -                                                                                 | None | -     | -                                                                                   | 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                | 1      | 7                                                                                 | 12     | 43    | 3                                                                                 | 5     | 9      | 37                                                                                | 43   | 2     | 41                                                                                  | 5    |
|                          |        |                                                                                   |        |       |                                                                                   |       |        |                                                                                   |      |       |                                                                                     |      |
| Major/Minor              | Minor2 |                                                                                   | Minor1 |       | Major1                                                                            |       | Major2 |                                                                                   |      |       |                                                                                     |      |
| Conflicting Flow All     | 104    | 146                                                                               | 44     | 125   | 127                                                                               | 59    | 47     | 0                                                                                 | 0    | 80    | 0                                                                                   | 0    |
| Stage 1                  | 48     | 48                                                                                | -      | 76    | 76                                                                                | -     | -      | -                                                                                 | -    | -     | -                                                                                   | -    |
| Stage 2                  | 56     | 98                                                                                | -      | 49    | 51                                                                                | -     | -      | -                                                                                 | -    | -     | -                                                                                   | -    |
| Critical Hdwy            | 7.12   | 6.52                                                                              | 6.22   | 7.12  | 6.52                                                                              | 6.22  | 4.12   | -                                                                                 | -    | 4.12  | -                                                                                   | -    |
| Critical Hdwy Stg 1      | 6.12   | 5.52                                                                              | -      | 6.12  | 5.52                                                                              | -     | -      | -                                                                                 | -    | -     | -                                                                                   | -    |
| Critical Hdwy Stg 2      | 6.12   | 5.52                                                                              | -      | 6.12  | 5.52                                                                              | -     | -      | -                                                                                 | -    | -     | -                                                                                   | -    |
| Follow-up Hdwy           | 3.518  | 4.018                                                                             | 3.318  | 3.518 | 4.018                                                                             | 3.318 | 2.218  | -                                                                                 | -    | 2.218 | -                                                                                   | -    |
| Pot Cap-1 Maneuver       | 876    | 745                                                                               | 1026   | 849   | 763                                                                               | 1007  | 1561   | -                                                                                 | -    | 1517  | -                                                                                   | -    |
| Stage 1                  | 965    | 855                                                                               | -      | 933   | 832                                                                               | -     | -      | -                                                                                 | -    | -     | -                                                                                   | -    |
| Stage 2                  | 956    | 814                                                                               | -      | 964   | 852                                                                               | -     | -      | -                                                                                 | -    | -     | -                                                                                   | -    |
| Platoon blocked, %       |        |                                                                                   |        |       |                                                                                   |       |        | -                                                                                 | -    |       | -                                                                                   | -    |
| Mov Cap-1 Maneuver       | 861    | 740                                                                               | 1026   | 826   | 758                                                                               | 1007  | 1561   | -                                                                                 | -    | 1517  | -                                                                                   | -    |
| Mov Cap-2 Maneuver       | 861    | 740                                                                               | -      | 826   | 758                                                                               | -     | -      | -                                                                                 | -    | -     | -                                                                                   | -    |
| Stage 1                  | 964    | 853                                                                               | -      | 928   | 827                                                                               | -     | -      | -                                                                                 | -    | -     | -                                                                                   | -    |
| Stage 2                  | 942    | 809                                                                               | -      | 944   | 851                                                                               | -     | -      | -                                                                                 | -    | -     | -                                                                                   | -    |
|                          |        |                                                                                   |        |       |                                                                                   |       |        |                                                                                   |      |       |                                                                                     |      |
|                          |        |                                                                                   |        |       |                                                                                   |       |        |                                                                                   |      |       |                                                                                     |      |
| Approach                 | EB     |                                                                                   | WB     |       | NB                                                                                |       | SB     |                                                                                   |      |       |                                                                                     |      |
| HCM Ctrl Dly, s/v        | 9.09   |                                                                                   | 9.59   |       | 0.71                                                                              |       | 0.33   |                                                                                   |      |       |                                                                                     |      |
| HCM LOS                  | A      |                                                                                   | A      |       |                                                                                   |       |        |                                                                                   |      |       |                                                                                     |      |
|                          |        |                                                                                   |        |       |                                                                                   |       |        |                                                                                   |      |       |                                                                                     |      |
| Minor Lane/Major Mvmt    | NBL    | NBT                                                                               | NBR    | EBLn1 | WBLn1                                                                             | SBL   | SBT    | SBR                                                                               |      |       |                                                                                     |      |
| Capacity (veh/h)         | 158    | -                                                                                 | -      | 900   | 837                                                                               | 78    | -      | -                                                                                 |      |       |                                                                                     |      |
| HCM Lane V/C Ratio       | 0.006  | -                                                                                 | -      | 0.022 | 0.062                                                                             | 0.001 | -      | -                                                                                 |      |       |                                                                                     |      |
| HCM Ctrl Dly (s/v)       | 7.3    | 0                                                                                 | -      | 9.1   | 9.6                                                                               | 7.4   | 0      | -                                                                                 |      |       |                                                                                     |      |
| HCM Lane LOS             | A      | A                                                                                 | -      | A     | A                                                                                 | A     | A      | -                                                                                 |      |       |                                                                                     |      |
| HCM 95th %tile Q(veh)    | 0      | -                                                                                 | -      | 0.1   | 0.2                                                                               | 0     | -      | -                                                                                 |      |       |                                                                                     |      |

| Intersection                |          |          |          |          |          |          |
|-----------------------------|----------|----------|----------|----------|----------|----------|
| Intersection Delay, s/veh   | 5.5      |          |          |          |          |          |
| Intersection LOS            | A        |          |          |          |          |          |
| Approach                    | EB       | WB       | NB       | SB       |          |          |
| Entry Lanes                 | 1        | 1        | 2        | 2        |          |          |
| Conflicting Circle Lanes    | 2        | 2        | 2        | 2        |          |          |
| Adj Approach Flow, veh/h    | 281      | 314      | 360      | 250      |          |          |
| Demand Flow Rate, veh/h     | 287      | 320      | 368      | 254      |          |          |
| Vehicles Circulating, veh/h | 512      | 320      | 58       | 353      |          |          |
| Vehicles Exiting, veh/h     | 95       | 106      | 741      | 287      |          |          |
| Ped Vol Crossing Leg, #/h   | 0        | 0        | 0        | 0        |          |          |
| Ped Cap Adj                 | 1.000    | 1.000    | 1.000    | 1.000    |          |          |
| Approach Delay, s/veh       | 7.4      | 6.3      | 3.9      | 4.8      |          |          |
| Approach LOS                | A        | A        | A        | A        |          |          |
| Lane                        | Left     | Left     | Left     | Right    | Left     | Right    |
| Designated Moves            | LTR      | LTR      | LT       | TR       | LT       | TR       |
| Assumed Moves               | LTR      | LTR      | LT       | TR       | LT       | TR       |
| RT Channelized              |          |          |          |          |          |          |
| Lane Util                   | 1.000    | 1.000    | 0.470    | 0.530    | 0.469    | 0.531    |
| Follow-Up Headway, s        | 2.535    | 2.535    | 2.667    | 2.535    | 2.667    | 2.535    |
| Critical Headway, s         | 4.328    | 4.328    | 4.645    | 4.328    | 4.645    | 4.328    |
| A (Intercept)               | 1420     | 1420     | 1350     | 1420     | 1350     | 1420     |
| B (Slope)                   | 8.501e-4 | 8.501e-4 | 9.199e-4 | 8.501e-4 | 9.199e-4 | 8.501e-4 |
| Entry Flow, veh/h           | 287      | 320      | 173      | 195      | 119      | 135      |
| Cap Entry Lane, veh/h       | 919      | 1082     | 1280     | 1352     | 976      | 1052     |
| Entry HV Adj Factor         | 0.979    | 0.981    | 0.978    | 0.979    | 0.986    | 0.980    |
| Flow Entry, veh/h           | 281      | 314      | 169      | 191      | 117      | 132      |
| Cap Entry, veh/h            | 900      | 1062     | 1252     | 1323     | 962      | 1031     |
| V/C Ratio                   | 0.312    | 0.296    | 0.135    | 0.144    | 0.122    | 0.128    |
| Control Delay, s/veh        | 7.4      | 6.3      | 4.0      | 3.9      | 4.9      | 4.6      |
| LOS                         | A        | A        | A        | A        | A        | A        |
| 95th %tile Queue, veh       | 1        | 1        | 0        | 1        | 0        | 0        |

| Intersection                |          |          |          |          |          |          |
|-----------------------------|----------|----------|----------|----------|----------|----------|
| Intersection Delay, s/veh   | 11.1     |          |          |          |          |          |
| Intersection LOS            | B        |          |          |          |          |          |
| Approach                    | EB       | WB       | NB       | SB       |          |          |
| Entry Lanes                 | 1        | 1        | 2        | 2        |          |          |
| Conflicting Circle Lanes    | 2        | 2        | 2        | 2        |          |          |
| Adj Approach Flow, veh/h    | 209      | 691      | 655      | 728      |          |          |
| Demand Flow Rate, veh/h     | 213      | 704      | 668      | 742      |          |          |
| Vehicles Circulating, veh/h | 1361     | 352      | 133      | 688      |          |          |
| Vehicles Exiting, veh/h     | 69       | 449      | 1441     | 368      |          |          |
| Ped Vol Crossing Leg, #/h   | 0        | 0        | 0        | 0        |          |          |
| Ped Cap Adj                 | 1.000    | 1.000    | 1.000    | 1.000    |          |          |
| Approach Delay, s/veh       | 17.9     | 13.6     | 5.4      | 11.9     |          |          |
| Approach LOS                | C        | B        | A        | B        |          |          |
| Lane                        | Left     | Left     | Left     | Right    | Left     | Right    |
| Designated Moves            | LTR      | LTR      | LT       | TR       | LT       | TR       |
| Assumed Moves               | LTR      | LTR      | LT       | R        | LT       | TR       |
| RT Channelized              |          |          |          |          |          |          |
| Lane Util                   | 1.000    | 1.000    | 0.473    | 0.527    | 0.470    | 0.530    |
| Follow-Up Headway, s        | 2.535    | 2.535    | 2.667    | 2.535    | 2.667    | 2.535    |
| Critical Headway, s         | 4.328    | 4.328    | 4.645    | 4.328    | 4.645    | 4.328    |
| A (Intercept)               | 1420     | 1420     | 1350     | 1420     | 1350     | 1420     |
| B (Slope)                   | 8.501e-4 | 8.501e-4 | 9.199e-4 | 8.501e-4 | 9.199e-4 | 8.501e-4 |
| Entry Flow, veh/h           | 213      | 704      | 316      | 352      | 349      | 393      |
| Cap Entry Lane, veh/h       | 447      | 1053     | 1194     | 1268     | 717      | 791      |
| Entry HV Adj Factor         | 0.981    | 0.982    | 0.981    | 0.980    | 0.980    | 0.981    |
| Flow Entry, veh/h           | 209      | 691      | 310      | 345      | 342      | 386      |
| Cap Entry, veh/h            | 438      | 1033     | 1171     | 1243     | 702      | 776      |
| V/C Ratio                   | 0.477    | 0.669    | 0.265    | 0.278    | 0.487    | 0.497    |
| Control Delay, s/veh        | 17.9     | 13.6     | 5.5      | 5.4      | 12.3     | 11.6     |
| LOS                         | C        | B        | A        | A        | B        | B        |
| 95th %tile Queue, veh       | 3        | 5        | 1        | 1        | 3        | 3        |

Timings

8: Banning Lewis Parkway & Golden Jubilee Drive

Total Traffic Conditions

AM Peak Traffic Hour - 2030

|                         |  |  |  |  |  |  |  |  |  |  |  |  |
|-------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Lane Group              | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | WBR                                                                               | NBL                                                                                 | NBT                                                                                 | NBR                                                                                 | SBL                                                                                 | SBT                                                                                 | SBR                                                                                 |
| Lane Configurations     |  |  |  |  |  |  |  |  |  |  |  |  |
| Traffic Volume (vph)    | 116                                                                               | 0                                                                                 | 21                                                                                | 19                                                                                | 0                                                                                 | 109                                                                               | 48                                                                                  | 132                                                                                 | 50                                                                                  | 282                                                                                 | 219                                                                                 | 272                                                                                 |
| Future Volume (vph)     | 116                                                                               | 0                                                                                 | 21                                                                                | 19                                                                                | 0                                                                                 | 109                                                                               | 48                                                                                  | 132                                                                                 | 50                                                                                  | 282                                                                                 | 219                                                                                 | 272                                                                                 |
| Satd. Flow (prot)       | 1770                                                                              | 1863                                                                              | 1583                                                                              | 1770                                                                              | 1863                                                                              | 1583                                                                              | 1770                                                                                | 5085                                                                                | 1583                                                                                | 1770                                                                                | 3539                                                                                | 1583                                                                                |
| Flt Permitted           | 0.491                                                                             |                                                                                   |                                                                                   | 0.757                                                                             |                                                                                   |                                                                                   | 0.604                                                                               |                                                                                     |                                                                                     | 0.472                                                                               |                                                                                     |                                                                                     |
| Satd. Flow (perm)       | 915                                                                               | 1863                                                                              | 1583                                                                              | 1410                                                                              | 1863                                                                              | 1583                                                                              | 1125                                                                                | 5085                                                                                | 1583                                                                                | 879                                                                                 | 3539                                                                                | 1583                                                                                |
| Satd. Flow (RTOR)       |                                                                                   |                                                                                   | 677                                                                               |                                                                                   |                                                                                   | 650                                                                               |                                                                                     |                                                                                     | 345                                                                                 |                                                                                     |                                                                                     | 296                                                                                 |
| Lane Group Flow (vph)   | 126                                                                               | 0                                                                                 | 23                                                                                | 21                                                                                | 0                                                                                 | 118                                                                               | 52                                                                                  | 143                                                                                 | 54                                                                                  | 307                                                                                 | 238                                                                                 | 296                                                                                 |
| Turn Type               | pm+pt                                                                             |                                                                                   | Perm                                                                              | pm+pt                                                                             |                                                                                   | Perm                                                                              | pm+pt                                                                               | NA                                                                                  | Perm                                                                                | pm+pt                                                                               | NA                                                                                  | Perm                                                                                |
| Protected Phases        | 7                                                                                 | 4                                                                                 |                                                                                   | 3                                                                                 | 8                                                                                 |                                                                                   | 5                                                                                   | 2                                                                                   |                                                                                     | 1                                                                                   | 6                                                                                   |                                                                                     |
| Permitted Phases        | 4                                                                                 |                                                                                   | 4                                                                                 | 8                                                                                 |                                                                                   | 8                                                                                 | 2                                                                                   |                                                                                     | 2                                                                                   | 6                                                                                   |                                                                                     | 6                                                                                   |
| Detector Phase          | 7                                                                                 | 4                                                                                 | 4                                                                                 | 3                                                                                 | 8                                                                                 | 8                                                                                 | 5                                                                                   | 2                                                                                   | 2                                                                                   | 1                                                                                   | 6                                                                                   | 6                                                                                   |
| Switch Phase            |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Minimum Initial (s)     | 5.0                                                                               | 5.0                                                                               | 5.0                                                                               | 5.0                                                                               | 5.0                                                                               | 5.0                                                                               | 5.0                                                                                 | 5.0                                                                                 | 5.0                                                                                 | 5.0                                                                                 | 5.0                                                                                 | 5.0                                                                                 |
| Minimum Split (s)       | 10.0                                                                              | 10.0                                                                              | 10.0                                                                              | 10.0                                                                              | 10.0                                                                              | 10.0                                                                              | 11.0                                                                                | 11.0                                                                                | 11.0                                                                                | 11.0                                                                                | 11.0                                                                                | 11.0                                                                                |
| Total Split (s)         | 11.0                                                                              | 11.0                                                                              | 11.0                                                                              | 10.0                                                                              | 10.0                                                                              | 10.0                                                                              | 11.0                                                                                | 18.0                                                                                | 18.0                                                                                | 21.0                                                                                | 28.0                                                                                | 28.0                                                                                |
| Total Split (%)         | 18.3%                                                                             | 18.3%                                                                             | 18.3%                                                                             | 16.7%                                                                             | 16.7%                                                                             | 16.7%                                                                             | 18.3%                                                                               | 30.0%                                                                               | 30.0%                                                                               | 35.0%                                                                               | 46.7%                                                                               | 46.7%                                                                               |
| Yellow Time (s)         | 3.0                                                                               | 3.0                                                                               | 3.0                                                                               | 3.0                                                                               | 3.0                                                                               | 3.0                                                                               | 4.0                                                                                 | 4.0                                                                                 | 4.0                                                                                 | 4.0                                                                                 | 4.0                                                                                 | 4.0                                                                                 |
| All-Red Time (s)        | 2.0                                                                               | 2.0                                                                               | 2.0                                                                               | 2.0                                                                               | 2.0                                                                               | 2.0                                                                               | 2.0                                                                                 | 2.0                                                                                 | 2.0                                                                                 | 2.0                                                                                 | 2.0                                                                                 | 2.0                                                                                 |
| Lost Time Adjust (s)    | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               | 0.0                                                                                 | 0.0                                                                                 | 0.0                                                                                 | 0.0                                                                                 | 0.0                                                                                 | 0.0                                                                                 |
| Total Lost Time (s)     | 5.0                                                                               | 5.0                                                                               | 5.0                                                                               | 5.0                                                                               | 5.0                                                                               | 5.0                                                                               | 6.0                                                                                 | 6.0                                                                                 | 6.0                                                                                 | 6.0                                                                                 | 6.0                                                                                 | 6.0                                                                                 |
| Lead/Lag                | Lead                                                                              | Lag                                                                               | Lag                                                                               | Lead                                                                              | Lag                                                                               | Lag                                                                               | Lead                                                                                | Lag                                                                                 | Lag                                                                                 | Lead                                                                                | Lag                                                                                 | Lag                                                                                 |
| Lead-Lag Optimize?      | Yes                                                                               | Yes                                                                               | Yes                                                                               | Yes                                                                               | Yes                                                                               | Yes                                                                               | Yes                                                                                 | Yes                                                                                 | Yes                                                                                 | Yes                                                                                 | Yes                                                                                 | Yes                                                                                 |
| Recall Mode             | None                                                                              | None                                                                              | None                                                                              | None                                                                              | None                                                                              | None                                                                              | None                                                                                | C-Max                                                                               | C-Max                                                                               | None                                                                                | C-Max                                                                               | C-Max                                                                               |
| Act Effect Green (s)    | 13.2                                                                              |                                                                                   | 11.9                                                                              | 9.0                                                                               |                                                                                   | 5.1                                                                               | 25.4                                                                                | 20.3                                                                                | 20.3                                                                                | 37.2                                                                                | 31.8                                                                                | 31.8                                                                                |
| Actuated g/C Ratio      | 0.22                                                                              |                                                                                   | 0.20                                                                              | 0.15                                                                              |                                                                                   | 0.09                                                                              | 0.42                                                                                | 0.34                                                                                | 0.34                                                                                | 0.62                                                                                | 0.53                                                                                | 0.53                                                                                |
| v/c Ratio               | 0.44                                                                              |                                                                                   | 0.03                                                                              | 0.09                                                                              |                                                                                   | 0.16                                                                              | 0.10                                                                                | 0.08                                                                                | 0.07                                                                                | 0.43                                                                                | 0.13                                                                                | 0.30                                                                                |
| Control Delay (s/veh)   | 23.2                                                                              |                                                                                   | 0.0                                                                               | 17.6                                                                              |                                                                                   | 0.5                                                                               | 8.6                                                                                 | 17.8                                                                                | 0.2                                                                                 | 6.1                                                                                 | 6.5                                                                                 | 2.9                                                                                 |
| Queue Delay             | 0.0                                                                               |                                                                                   | 0.0                                                                               | 0.0                                                                               |                                                                                   | 0.0                                                                               | 0.0                                                                                 | 0.0                                                                                 | 0.0                                                                                 | 0.0                                                                                 | 0.0                                                                                 | 0.0                                                                                 |
| Total Delay (s/veh)     | 23.2                                                                              |                                                                                   | 0.0                                                                               | 17.6                                                                              |                                                                                   | 0.5                                                                               | 8.6                                                                                 | 17.8                                                                                | 0.2                                                                                 | 6.1                                                                                 | 6.5                                                                                 | 2.9                                                                                 |
| LOS                     | C                                                                                 |                                                                                   | A                                                                                 | B                                                                                 |                                                                                   | A                                                                                 | A                                                                                   | B                                                                                   | A                                                                                   | A                                                                                   | A                                                                                   | A                                                                                   |
| Approach Delay (s/veh)  |                                                                                   | 19.6                                                                              |                                                                                   |                                                                                   | 3.1                                                                               |                                                                                   |                                                                                     | 12.1                                                                                |                                                                                     |                                                                                     | 5.1                                                                                 |                                                                                     |
| Approach LOS            |                                                                                   | B                                                                                 |                                                                                   |                                                                                   | A                                                                                 |                                                                                   |                                                                                     | B                                                                                   |                                                                                     |                                                                                     | A                                                                                   |                                                                                     |
| Queue Length 50th (ft)  | 36                                                                                |                                                                                   | 0                                                                                 | 6                                                                                 |                                                                                   | 0                                                                                 | 8                                                                                   | 14                                                                                  | 0                                                                                   | 20                                                                                  | 38                                                                                  | 27                                                                                  |
| Queue Length 95th (ft)  | 74                                                                                |                                                                                   | 0                                                                                 | 20                                                                                |                                                                                   | 0                                                                                 | 21                                                                                  | 30                                                                                  | 0                                                                                   | m44                                                                                 | m53                                                                                 | m74                                                                                 |
| Internal Link Dist (ft) |                                                                                   | 872                                                                               |                                                                                   |                                                                                   | 1012                                                                              |                                                                                   |                                                                                     | 5450                                                                                |                                                                                     |                                                                                     | 375                                                                                 |                                                                                     |
| Turn Bay Length (ft)    | 110                                                                               |                                                                                   | 110                                                                               | 110                                                                               |                                                                                   | 110                                                                               | 230                                                                                 |                                                                                     | 230                                                                                 | 230                                                                                 |                                                                                     |                                                                                     |
| Base Capacity (vph)     | 286                                                                               |                                                                                   | 858                                                                               | 241                                                                               |                                                                                   | 729                                                                               | 531                                                                                 | 1722                                                                                | 764                                                                                 | 767                                                                                 | 1875                                                                                | 977                                                                                 |
| Starvation Cap Reductn  | 0                                                                                 |                                                                                   | 0                                                                                 | 0                                                                                 |                                                                                   | 0                                                                                 | 0                                                                                   | 0                                                                                   | 0                                                                                   | 0                                                                                   | 0                                                                                   | 0                                                                                   |
| Spillback 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                                                                                   |
| Reduced v/c Ratio       | 0.44                                                                              |                                                                                   | 0.03                                                                              | 0.09                                                                              |                                                                                   | 0.16                                                                              | 0.10                                                                                | 0.08                                                                                | 0.07                                                                                | 0.40                                                                                | 0.13                                                                                | 0.30                                                                                |

Intersection Summary

Cycle Length: 60

Actuated Cycle Length: 60

Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Natural Cycle: 45

Control Type: Actuated-Coordinated

Timings  
 8: Banning Lewis Parkway & Golden Jubilee Drive

Total Traffic Conditions  
 AM Peak Traffic Hour - 2030

Maximum v/c Ratio: 0.44

Intersection Signal Delay (s/veh): 7.7

Intersection LOS: A

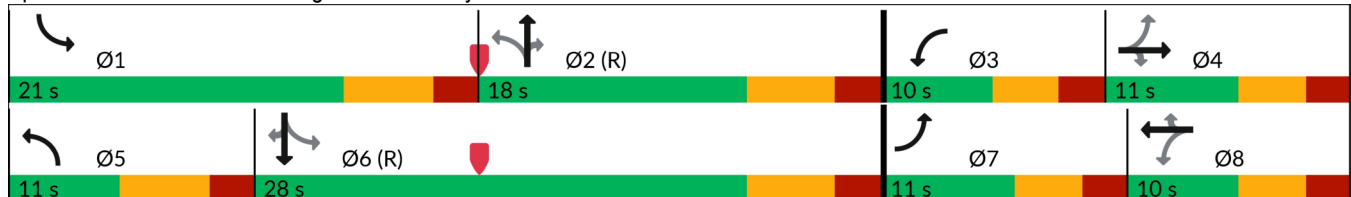
Intersection Capacity Utilization 47.0%

ICU Level of Service A

Analysis Period (min) 15

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 8: Banning Lewis Parkway & Golden Jubilee Drive



# Timings

1: Mohawk Road & E Woodmen Road

Total Traffic Conditions  
PM Peak Traffic Hour - 2030

|                                                            |  |  |  |  |  |  |  |  |  |  |  |  |
|------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Lane Group                                                 | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | WBR                                                                               | NBL                                                                                 | NBT                                                                                 | NBR                                                                                 | SBL                                                                                 | SBT                                                                                 | SBR                                                                                 |
| Lane Configurations                                        |  |  |  |  |  |  |                                                                                     |  |                                                                                     |  |  |                                                                                     |
| Traffic Volume (vph)                                       | 52                                                                                | 3015                                                                              | 167                                                                               | 22                                                                                | 2637                                                                              | 19                                                                                | 25                                                                                  | 5                                                                                   | 7                                                                                   | 12                                                                                  | 1                                                                                   | 49                                                                                  |
| Future Volume (vph)                                        | 52                                                                                | 3015                                                                              | 167                                                                               | 22                                                                                | 2637                                                                              | 19                                                                                | 25                                                                                  | 5                                                                                   | 7                                                                                   | 12                                                                                  | 1                                                                                   | 49                                                                                  |
| Satd. Flow (prot)                                          | 1770                                                                              | 5085                                                                              | 1583                                                                              | 1770                                                                              | 5085                                                                              | 1583                                                                              | 0                                                                                   | 1753                                                                                | 0                                                                                   | 1770                                                                                | 1589                                                                                | 0                                                                                   |
| Flt Permitted                                              | 0.039                                                                             |                                                                                   |                                                                                   | 0.039                                                                             |                                                                                   |                                                                                   |                                                                                     | 0.764                                                                               |                                                                                     | 0.880                                                                               |                                                                                     |                                                                                     |
| Satd. Flow (perm)                                          | 73                                                                                | 5085                                                                              | 1583                                                                              | 73                                                                                | 5085                                                                              | 1583                                                                              | 0                                                                                   | 1385                                                                                | 0                                                                                   | 1639                                                                                | 1589                                                                                | 0                                                                                   |
| Satd. Flow (RTOR)                                          |                                                                                   |                                                                                   | 182                                                                               |                                                                                   |                                                                                   | 21                                                                                |                                                                                     | 5                                                                                   |                                                                                     |                                                                                     | 11                                                                                  |                                                                                     |
| Lane Group Flow (vph)                                      | 57                                                                                | 3277                                                                              | 182                                                                               | 24                                                                                | 2866                                                                              | 21                                                                                | 0                                                                                   | 40                                                                                  | 0                                                                                   | 13                                                                                  | 54                                                                                  | 0                                                                                   |
| Turn Type                                                  | Perm                                                                              | NA                                                                                | Perm                                                                              | Perm                                                                              | NA                                                                                | Perm                                                                              | Perm                                                                                | NA                                                                                  |                                                                                     | Perm                                                                                | NA                                                                                  |                                                                                     |
| Protected Phases                                           |                                                                                   | 2                                                                                 |                                                                                   |                                                                                   | 6                                                                                 |                                                                                   |                                                                                     | 8                                                                                   |                                                                                     |                                                                                     | 4                                                                                   |                                                                                     |
| Permitted Phases                                           | 2                                                                                 |                                                                                   | 2                                                                                 | 6                                                                                 |                                                                                   | 6                                                                                 | 8                                                                                   |                                                                                     |                                                                                     | 4                                                                                   |                                                                                     |                                                                                     |
| Detector Phase                                             | 2                                                                                 | 2                                                                                 | 2                                                                                 | 6                                                                                 | 6                                                                                 | 6                                                                                 | 8                                                                                   | 8                                                                                   |                                                                                     | 4                                                                                   | 4                                                                                   |                                                                                     |
| Switch Phase                                               |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Minimum Initial (s)                                        | 5.0                                                                               | 5.0                                                                               | 5.0                                                                               | 5.0                                                                               | 5.0                                                                               | 5.0                                                                               | 5.0                                                                                 | 5.0                                                                                 |                                                                                     | 5.0                                                                                 | 5.0                                                                                 |                                                                                     |
| Minimum Split (s)                                          | 11.0                                                                              | 11.0                                                                              | 11.0                                                                              | 11.0                                                                              | 11.0                                                                              | 11.0                                                                              | 10.0                                                                                | 10.0                                                                                |                                                                                     | 10.0                                                                                | 10.0                                                                                |                                                                                     |
| Total Split (s)                                            | 109.0                                                                             | 109.0                                                                             | 109.0                                                                             | 109.0                                                                             | 109.0                                                                             | 109.0                                                                             | 11.0                                                                                | 11.0                                                                                |                                                                                     | 11.0                                                                                | 11.0                                                                                |                                                                                     |
| Total Split (%)                                            | 90.8%                                                                             | 90.8%                                                                             | 90.8%                                                                             | 90.8%                                                                             | 90.8%                                                                             | 90.8%                                                                             | 9.2%                                                                                | 9.2%                                                                                |                                                                                     | 9.2%                                                                                | 9.2%                                                                                |                                                                                     |
| Yellow Time (s)                                            | 4.0                                                                               | 4.0                                                                               | 4.0                                                                               | 4.0                                                                               | 4.0                                                                               | 4.0                                                                               | 3.0                                                                                 | 3.0                                                                                 |                                                                                     | 3.0                                                                                 | 3.0                                                                                 |                                                                                     |
| All-Red Time (s)                                           | 2.0                                                                               | 2.0                                                                               | 2.0                                                                               | 2.0                                                                               | 2.0                                                                               | 2.0                                                                               | 2.0                                                                                 | 2.0                                                                                 |                                                                                     | 2.0                                                                                 | 2.0                                                                                 |                                                                                     |
| Lost Time Adjust (s)                                       | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               |                                                                                     | 0.0                                                                                 |                                                                                     | 0.0                                                                                 | 0.0                                                                                 |                                                                                     |
| Total Lost Time (s)                                        | 6.0                                                                               | 6.0                                                                               | 6.0                                                                               | 6.0                                                                               | 6.0                                                                               | 6.0                                                                               |                                                                                     | 5.0                                                                                 |                                                                                     | 5.0                                                                                 | 5.0                                                                                 |                                                                                     |
| Lead/Lag                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Lead-Lag Optimize?                                         |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Recall Mode                                                | C-Max                                                                             | C-Max                                                                             | C-Max                                                                             | Max                                                                               | Max                                                                               | Max                                                                               | Max                                                                                 | Max                                                                                 |                                                                                     | Max                                                                                 | Max                                                                                 |                                                                                     |
| Act Effect Green (s)                                       | 103.0                                                                             | 103.0                                                                             | 103.0                                                                             | 103.0                                                                             | 103.0                                                                             | 103.0                                                                             |                                                                                     | 6.0                                                                                 |                                                                                     | 6.0                                                                                 | 6.0                                                                                 |                                                                                     |
| Actuated g/C Ratio                                         | 0.86                                                                              | 0.86                                                                              | 0.86                                                                              | 0.86                                                                              | 0.86                                                                              | 0.86                                                                              |                                                                                     | 0.05                                                                                |                                                                                     | 0.05                                                                                | 0.05                                                                                |                                                                                     |
| v/c Ratio                                                  | 0.92                                                                              | 0.75                                                                              | 0.13                                                                              | 0.39                                                                              | 0.66                                                                              | 0.02                                                                              |                                                                                     | 0.54                                                                                |                                                                                     | 0.16                                                                                | 0.61                                                                                |                                                                                     |
| Control Delay (s/veh)                                      | 111.5                                                                             | 4.7                                                                               | 0.4                                                                               | 15.9                                                                              | 4.0                                                                               | 0.9                                                                               |                                                                                     | 76.4                                                                                |                                                                                     | 59.3                                                                                | 74.0                                                                                |                                                                                     |
| Queue Delay                                                | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               |                                                                                     | 0.0                                                                                 |                                                                                     | 0.0                                                                                 | 0.0                                                                                 |                                                                                     |
| Total Delay (s/veh)                                        | 111.5                                                                             | 4.7                                                                               | 0.4                                                                               | 15.9                                                                              | 4.0                                                                               | 0.9                                                                               |                                                                                     | 76.4                                                                                |                                                                                     | 59.3                                                                                | 74.0                                                                                |                                                                                     |
| LOS                                                        | F                                                                                 | A                                                                                 | A                                                                                 | B                                                                                 | A                                                                                 | A                                                                                 |                                                                                     | E                                                                                   |                                                                                     | E                                                                                   | E                                                                                   |                                                                                     |
| Approach Delay (s/veh)                                     |                                                                                   | 6.2                                                                               |                                                                                   |                                                                                   | 4.1                                                                               |                                                                                   |                                                                                     | 76.4                                                                                |                                                                                     |                                                                                     | 71.2                                                                                |                                                                                     |
| Approach LOS                                               |                                                                                   | A                                                                                 |                                                                                   |                                                                                   | A                                                                                 |                                                                                   |                                                                                     | E                                                                                   |                                                                                     |                                                                                     | E                                                                                   |                                                                                     |
| Queue Length 50th (ft)                                     | 20                                                                                | 259                                                                               | 0                                                                                 | 3                                                                                 | 149                                                                               | 1                                                                                 |                                                                                     | 27                                                                                  |                                                                                     | 10                                                                                  | 33                                                                                  |                                                                                     |
| Queue Length 95th (ft)                                     | #83                                                                               | 292                                                                               | 7                                                                                 | m4                                                                                | m149                                                                              | m1                                                                                |                                                                                     | #77                                                                                 |                                                                                     | 32                                                                                  | #93                                                                                 |                                                                                     |
| Internal Link Dist (ft)                                    |                                                                                   | 2474                                                                              |                                                                                   |                                                                                   | 750                                                                               |                                                                                   |                                                                                     | 6246                                                                                |                                                                                     |                                                                                     | 419                                                                                 |                                                                                     |
| Turn Bay Length (ft)                                       | 300                                                                               |                                                                                   | 400                                                                               | 315                                                                               |                                                                                   | 370                                                                               |                                                                                     |                                                                                     |                                                                                     | 50                                                                                  |                                                                                     |                                                                                     |
| Base Capacity (vph)                                        | 62                                                                                | 4364                                                                              | 1384                                                                              | 62                                                                                | 4364                                                                              | 1361                                                                              |                                                                                     | 74                                                                                  |                                                                                     | 81                                                                                  | 89                                                                                  |                                                                                     |
| 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                                                                                   |                                                                                     |
| Reduced v/c Ratio                                          | 0.92                                                                              | 0.75                                                                              | 0.13                                                                              | 0.39                                                                              | 0.66                                                                              | 0.02                                                                              |                                                                                     | 0.54                                                                                |                                                                                     | 0.16                                                                                | 0.61                                                                                |                                                                                     |
| Intersection Summary                                       |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Cycle Length: 120                                          |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Actuated Cycle Length: 120                                 |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Offset: 0 (0%), Referenced to phase 2:EBTL, Start of Green |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Natural Cycle: 60                                          |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Control Type: Actuated-Coordinated                         |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |

|                                                                   |                        |
|-------------------------------------------------------------------|------------------------|
| Maximum v/c Ratio: 0.92                                           |                        |
| Intersection Signal Delay (s/veh): 6.4                            | Intersection LOS: A    |
| Intersection Capacity Utilization 76.2%                           | ICU Level of Service D |
| Analysis Period (min) 15                                          |                        |
| # 95th percentile volume exceeds capacity, queue may be longer.   |                        |
| Queue shown is maximum after two cycles.                          |                        |
| m Volume for 95th percentile queue is metered by upstream signal. |                        |

Splits and Phases: 1: Mohawk Road & E Woodmen Road



Timings

2: Banning Lewis Parkway & E Woodmen Road

Total Traffic Conditions

PM Peak Traffic Hour - 2030

|                         |  |  |  |  |  |  |  |  |  |  |  |  |
|-------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Lane Group              | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | WBR                                                                               | NBL                                                                                 | NBT                                                                                 | NBR                                                                                 | SBL                                                                                 | SBT                                                                                 | SBR                                                                                 |
| Lane Configurations     |  |  |  |  |  |  |  |  |  |  |  |  |
| Traffic Volume (vph)    | 539                                                                               | 1738                                                                              | 753                                                                               | 619                                                                               | 1596                                                                              | 294                                                                               | 743                                                                                 | 456                                                                                 | 629                                                                                 | 250                                                                                 | 345                                                                                 | 348                                                                                 |
| Future Volume (vph)     | 539                                                                               | 1738                                                                              | 753                                                                               | 619                                                                               | 1596                                                                              | 294                                                                               | 743                                                                                 | 456                                                                                 | 629                                                                                 | 250                                                                                 | 345                                                                                 | 348                                                                                 |
| Satd. Flow (prot)       | 3433                                                                              | 5085                                                                              | 1583                                                                              | 3433                                                                              | 5085                                                                              | 1583                                                                              | 3433                                                                                | 5085                                                                                | 1583                                                                                | 3433                                                                                | 5085                                                                                | 1583                                                                                |
| Flt Permitted           | 0.950                                                                             |                                                                                   |                                                                                   | 0.950                                                                             |                                                                                   |                                                                                   | 0.950                                                                               |                                                                                     |                                                                                     | 0.950                                                                               |                                                                                     |                                                                                     |
| Satd. Flow (perm)       | 3433                                                                              | 5085                                                                              | 1583                                                                              | 3433                                                                              | 5085                                                                              | 1583                                                                              | 3433                                                                                | 5085                                                                                | 1583                                                                                | 3433                                                                                | 5085                                                                                | 1583                                                                                |
| Satd. Flow (RTOR)       |                                                                                   |                                                                                   | 390                                                                               |                                                                                   |                                                                                   | 245                                                                               |                                                                                     |                                                                                     | 402                                                                                 |                                                                                     |                                                                                     | 345                                                                                 |
| Lane Group Flow (vph)   | 586                                                                               | 1889                                                                              | 818                                                                               | 673                                                                               | 1735                                                                              | 320                                                                               | 808                                                                                 | 496                                                                                 | 684                                                                                 | 272                                                                                 | 375                                                                                 | 378                                                                                 |
| Turn Type               | Prot                                                                              | NA                                                                                | Free                                                                              | Prot                                                                              | NA                                                                                | Free                                                                              | Prot                                                                                | NA                                                                                  | Free                                                                                | Prot                                                                                | NA                                                                                  | Free                                                                                |
| Protected Phases        | 5                                                                                 | 2                                                                                 |                                                                                   | 1                                                                                 | 6                                                                                 |                                                                                   | 7                                                                                   | 4                                                                                   |                                                                                     | 3                                                                                   | 8                                                                                   |                                                                                     |
| Permitted Phases        |                                                                                   |                                                                                   | Free                                                                              |                                                                                   |                                                                                   | Free                                                                              |                                                                                     |                                                                                     | Free                                                                                |                                                                                     |                                                                                     | Free                                                                                |
| Detector Phase          | 5                                                                                 | 2                                                                                 |                                                                                   | 1                                                                                 | 6                                                                                 |                                                                                   | 7                                                                                   | 4                                                                                   |                                                                                     | 3                                                                                   | 8                                                                                   |                                                                                     |
| Switch Phase            |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Minimum Initial (s)     | 5.0                                                                               | 5.0                                                                               |                                                                                   | 5.0                                                                               | 5.0                                                                               |                                                                                   | 5.0                                                                                 | 5.0                                                                                 |                                                                                     | 5.0                                                                                 | 5.0                                                                                 |                                                                                     |
| Minimum Split (s)       | 11.0                                                                              | 11.0                                                                              |                                                                                   | 11.0                                                                              | 11.0                                                                              |                                                                                   | 11.0                                                                                | 11.0                                                                                |                                                                                     | 11.0                                                                                | 11.0                                                                                |                                                                                     |
| Total Split (s)         | 26.0                                                                              | 48.0                                                                              |                                                                                   | 27.0                                                                              | 49.0                                                                              |                                                                                   | 31.0                                                                                | 24.0                                                                                |                                                                                     | 21.0                                                                                | 14.0                                                                                |                                                                                     |
| Total Split (%)         | 21.7%                                                                             | 40.0%                                                                             |                                                                                   | 22.5%                                                                             | 40.8%                                                                             |                                                                                   | 25.8%                                                                               | 20.0%                                                                               |                                                                                     | 17.5%                                                                               | 11.7%                                                                               |                                                                                     |
| Yellow Time (s)         | 4.0                                                                               | 4.0                                                                               |                                                                                   | 4.0                                                                               | 4.0                                                                               |                                                                                   | 4.0                                                                                 | 4.0                                                                                 |                                                                                     | 4.0                                                                                 | 4.0                                                                                 |                                                                                     |
| All-Red Time (s)        | 2.0                                                                               | 2.0                                                                               |                                                                                   | 2.0                                                                               | 2.0                                                                               |                                                                                   | 2.0                                                                                 | 2.0                                                                                 |                                                                                     | 2.0                                                                                 | 2.0                                                                                 |                                                                                     |
| Lost Time Adjust (s)    | 0.0                                                                               | 0.0                                                                               |                                                                                   | 0.0                                                                               | 0.0                                                                               |                                                                                   | 0.0                                                                                 | 0.0                                                                                 |                                                                                     | 0.0                                                                                 | 0.0                                                                                 |                                                                                     |
| Total Lost Time (s)     | 6.0                                                                               | 6.0                                                                               |                                                                                   | 6.0                                                                               | 6.0                                                                               |                                                                                   | 6.0                                                                                 | 6.0                                                                                 |                                                                                     | 6.0                                                                                 | 6.0                                                                                 |                                                                                     |
| Lead/Lag                | Lead                                                                              | Lag                                                                               |                                                                                   | Lead                                                                              | Lag                                                                               |                                                                                   | Lead                                                                                | Lag                                                                                 |                                                                                     | Lead                                                                                | Lag                                                                                 |                                                                                     |
| Lead-Lag Optimize?      | Yes                                                                               | Yes                                                                               |                                                                                   | Yes                                                                               | Yes                                                                               |                                                                                   | Yes                                                                                 | Yes                                                                                 |                                                                                     | Yes                                                                                 | Yes                                                                                 |                                                                                     |
| Recall Mode             | None                                                                              | C-Max                                                                             |                                                                                   | None                                                                              | C-Max                                                                             |                                                                                   | None                                                                                | Max                                                                                 |                                                                                     | None                                                                                | Max                                                                                 |                                                                                     |
| Act Effect Green (s)    | 20.0                                                                              | 42.0                                                                              | 120.0                                                                             | 21.0                                                                              | 43.0                                                                              | 120.0                                                                             | 25.0                                                                                | 19.3                                                                                | 120.0                                                                               | 13.7                                                                                | 8.0                                                                                 | 120.0                                                                               |
| Actuated g/C Ratio      | 0.17                                                                              | 0.35                                                                              | 1.00                                                                              | 0.18                                                                              | 0.36                                                                              | 1.00                                                                              | 0.21                                                                                | 0.16                                                                                | 1.00                                                                                | 0.11                                                                                | 0.07                                                                                | 1.00                                                                                |
| v/c Ratio               | 1.02                                                                              | 1.06                                                                              | 0.52                                                                              | 1.12                                                                              | 0.95                                                                              | 0.20                                                                              | 1.13                                                                                | 0.61                                                                                | 0.43                                                                                | 0.69                                                                                | 1.11                                                                                | 0.24                                                                                |
| Control Delay (s/veh)   | 82.8                                                                              | 84.9                                                                              | 0.8                                                                               | 108.3                                                                             | 37.5                                                                              | 0.1                                                                               | 107.4                                                                               | 41.5                                                                                | 0.5                                                                                 | 60.8                                                                                | 131.6                                                                               | 0.4                                                                                 |
| 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                                                                                 |
| Total Delay (s/veh)     | 82.8                                                                              | 84.9                                                                              | 0.8                                                                               | 108.3                                                                             | 37.5                                                                              | 0.1                                                                               | 107.4                                                                               | 41.5                                                                                | 0.5                                                                                 | 60.8                                                                                | 131.6                                                                               | 0.4                                                                                 |
| LOS                     | F                                                                                 | F                                                                                 | A                                                                                 | F                                                                                 | D                                                                                 | A                                                                                 | F                                                                                   | D                                                                                   | A                                                                                   | E                                                                                   | F                                                                                   | A                                                                                   |
| Approach Delay (s/veh)  |                                                                                   | 63.6                                                                              |                                                                                   |                                                                                   | 50.6                                                                              |                                                                                   |                                                                                     | 54.2                                                                                |                                                                                     |                                                                                     | 64.4                                                                                |                                                                                     |
| Approach LOS            |                                                                                   | E                                                                                 |                                                                                   |                                                                                   | D                                                                                 |                                                                                   |                                                                                     | D                                                                                   |                                                                                     |                                                                                     | E                                                                                   |                                                                                     |
| Queue Length 50th (ft)  | ~249                                                                              | ~609                                                                              | 0                                                                                 | ~311                                                                              | 469                                                                               | 0                                                                                 | ~370                                                                                | 126                                                                                 | 0                                                                                   | 105                                                                                 | ~121                                                                                | 0                                                                                   |
| Queue Length 95th (ft)  | #366                                                                              | #709                                                                              | 0                                                                                 | m#387                                                                             | m442                                                                              | m0                                                                                | m#371                                                                               | m130                                                                                | m0                                                                                  | 151                                                                                 | #191                                                                                | 0                                                                                   |
| Internal Link Dist (ft) |                                                                                   | 712                                                                               |                                                                                   |                                                                                   | 722                                                                               |                                                                                   |                                                                                     | 667                                                                                 |                                                                                     |                                                                                     | 695                                                                                 |                                                                                     |
| Turn Bay Length (ft)    | 285                                                                               |                                                                                   |                                                                                   | 285                                                                               |                                                                                   | 225                                                                               | 185                                                                                 |                                                                                     | 185                                                                                 | 185                                                                                 |                                                                                     | 185                                                                                 |
| Base Capacity (vph)     | 572                                                                               | 1779                                                                              | 1583                                                                              | 600                                                                               | 1822                                                                              | 1583                                                                              | 715                                                                                 | 816                                                                                 | 1583                                                                                | 429                                                                                 | 339                                                                                 | 1583                                                                                |
| Starvation Cap Reductn  | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                   | 0                                                                                   | 0                                                                                   | 0                                                                                   | 0                                                                                   | 0                                                                                   |
| Spillback Cap Reductn   | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                   | 0                                                                                   | 0                                                                                   | 0                                                                                   | 0                                                                                   | 0                                                                                   |
| Storage Cap Reductn     | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                   | 0                                                                                   | 0                                                                                   | 0                                                                                   | 0                                                                                   | 0                                                                                   |
| Reduced v/c Ratio       | 1.02                                                                              | 1.06                                                                              | 0.52                                                                              | 1.12                                                                              | 0.95                                                                              | 0.20                                                                              | 1.13                                                                                | 0.61                                                                                | 0.43                                                                                | 0.63                                                                                | 1.11                                                                                | 0.24                                                                                |

Intersection Summary

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Green

Natural Cycle: 130

Control Type: Actuated-Coordinated

Timings  
 2: Banning Lewis Parkway & E Woodmen Road

Total Traffic Conditions  
 PM Peak Traffic Hour - 2030

Maximum v/c Ratio: 1.13

Intersection Signal Delay (s/veh): 57.7

Intersection LOS: E

Intersection Capacity Utilization 99.1%

ICU Level of Service F

Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

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

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 2: Banning Lewis Parkway & E Woodmen Road



Timings

3: Golden Sage Road & E Woodmen Road

Total Traffic Conditions

PM Peak Traffic Hour - 2030

|                                                                       |  |                                                                                    |  |  |                                                                                                                                                                      |   |  |  |  |  |  |  |
|-----------------------------------------------------------------------|-----------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Lane Group                                                            | EBL                                                                               | EBT                                                                                                                                                                 | EBR                                                                               | WBL                                                                               | WBT                                                                                                                                                                                                                                                   | WBR                                                                                | NBL                                                                                 | NBT                                                                                 | NBR                                                                                 | SBL                                                                                 | SBT                                                                                 | SBR                                                                                 |
| Lane Configurations                                                   |  |   |  |  |    |  |  |  |  |  |  |  |
| Traffic Volume (vph)                                                  | 283                                                                               | 2147                                                                                                                                                                | 214                                                                               | 79                                                                                | 1979                                                                                                                                                                                                                                                  | 180                                                                                | 139                                                                                 | 15                                                                                  | 49                                                                                  | 89                                                                                  | 13                                                                                  | 322                                                                                 |
| Future Volume (vph)                                                   | 283                                                                               | 2147                                                                                                                                                                | 214                                                                               | 79                                                                                | 1979                                                                                                                                                                                                                                                  | 180                                                                                | 139                                                                                 | 15                                                                                  | 49                                                                                  | 89                                                                                  | 13                                                                                  | 322                                                                                 |
| Satd. Flow (prot)                                                     | 1770                                                                              | 3539                                                                                                                                                                | 1583                                                                              | 1770                                                                              | 5085                                                                                                                                                                                                                                                  | 1583                                                                               | 1770                                                                                | 1863                                                                                | 1583                                                                                | 1770                                                                                | 1595                                                                                | 0                                                                                   |
| Flt Permitted                                                         | 0.118                                                                             |                                                                                                                                                                     |                                                                                   | 0.129                                                                             |                                                                                                                                                                                                                                                       |                                                                                    | 0.800                                                                               |                                                                                     |                                                                                     | 0.800                                                                               |                                                                                     |                                                                                     |
| Satd. Flow (perm)                                                     | 220                                                                               | 3539                                                                                                                                                                | 1583                                                                              | 240                                                                               | 5085                                                                                                                                                                                                                                                  | 1583                                                                               | 1490                                                                                | 1863                                                                                | 1583                                                                                | 1490                                                                                | 1595                                                                                | 0                                                                                   |
| Satd. Flow (RTOR)                                                     |                                                                                   |                                                                                                                                                                     | 233                                                                               |                                                                                   |                                                                                                                                                                                                                                                       | 196                                                                                |                                                                                     |                                                                                     | 255                                                                                 |                                                                                     | 154                                                                                 |                                                                                     |
| Lane Group Flow (vph)                                                 | 308                                                                               | 2334                                                                                                                                                                | 233                                                                               | 86                                                                                | 2151                                                                                                                                                                                                                                                  | 196                                                                                | 151                                                                                 | 16                                                                                  | 53                                                                                  | 97                                                                                  | 364                                                                                 | 0                                                                                   |
| Turn Type                                                             | pm+pt                                                                             | NA                                                                                                                                                                  | Perm                                                                              | pm+pt                                                                             | NA                                                                                                                                                                                                                                                    | Perm                                                                               | Perm                                                                                | NA                                                                                  | Free                                                                                | Perm                                                                                | NA                                                                                  |                                                                                     |
| Protected Phases                                                      | 5                                                                                 | 2                                                                                                                                                                   |                                                                                   | 1                                                                                 | 6                                                                                                                                                                                                                                                     |                                                                                    |                                                                                     | 4                                                                                   |                                                                                     |                                                                                     | 8                                                                                   |                                                                                     |
| Permitted Phases                                                      | 2                                                                                 |                                                                                                                                                                     | 2                                                                                 | 6                                                                                 |                                                                                                                                                                                                                                                       | 6                                                                                  | 4                                                                                   |                                                                                     | Free                                                                                | 8                                                                                   |                                                                                     |                                                                                     |
| Detector Phase                                                        | 5                                                                                 | 2                                                                                                                                                                   | 2                                                                                 | 1                                                                                 | 6                                                                                                                                                                                                                                                     | 6                                                                                  | 4                                                                                   | 4                                                                                   |                                                                                     | 8                                                                                   | 8                                                                                   |                                                                                     |
| Switch Phase                                                          |                                                                                   |                                                                                                                                                                     |                                                                                   |                                                                                   |                                                                                                                                                                                                                                                       |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Minimum Initial (s)                                                   | 5.0                                                                               | 5.0                                                                                                                                                                 | 5.0                                                                               | 5.0                                                                               | 5.0                                                                                                                                                                                                                                                   | 5.0                                                                                | 5.0                                                                                 | 5.0                                                                                 |                                                                                     | 5.0                                                                                 | 5.0                                                                                 |                                                                                     |
| Minimum Split (s)                                                     | 11.0                                                                              | 11.0                                                                                                                                                                | 11.0                                                                              | 11.0                                                                              | 11.0                                                                                                                                                                                                                                                  | 11.0                                                                               | 10.0                                                                                | 10.0                                                                                |                                                                                     | 10.0                                                                                | 10.0                                                                                |                                                                                     |
| Total Split (s)                                                       | 13.0                                                                              | 39.0                                                                                                                                                                | 39.0                                                                              | 11.0                                                                              | 37.0                                                                                                                                                                                                                                                  | 37.0                                                                               | 10.0                                                                                | 10.0                                                                                |                                                                                     | 10.0                                                                                | 10.0                                                                                |                                                                                     |
| Total Split (%)                                                       | 21.7%                                                                             | 65.0%                                                                                                                                                               | 65.0%                                                                             | 18.3%                                                                             | 61.7%                                                                                                                                                                                                                                                 | 61.7%                                                                              | 16.7%                                                                               | 16.7%                                                                               |                                                                                     | 16.7%                                                                               | 16.7%                                                                               |                                                                                     |
| Yellow Time (s)                                                       | 4.0                                                                               | 4.0                                                                                                                                                                 | 4.0                                                                               | 4.0                                                                               | 4.0                                                                                                                                                                                                                                                   | 4.0                                                                                | 3.0                                                                                 | 3.0                                                                                 |                                                                                     | 3.0                                                                                 | 3.0                                                                                 |                                                                                     |
| All-Red Time (s)                                                      | 2.0                                                                               | 2.0                                                                                                                                                                 | 2.0                                                                               | 2.0                                                                               | 2.0                                                                                                                                                                                                                                                   | 2.0                                                                                | 2.0                                                                                 | 2.0                                                                                 |                                                                                     | 2.0                                                                                 | 2.0                                                                                 |                                                                                     |
| Lost Time Adjust (s)                                                  | 0.0                                                                               | 0.0                                                                                                                                                                 | 0.0                                                                               | 0.0                                                                               | 0.0                                                                                                                                                                                                                                                   | 0.0                                                                                | 0.0                                                                                 | 0.0                                                                                 |                                                                                     | 0.0                                                                                 | 0.0                                                                                 |                                                                                     |
| Total Lost Time (s)                                                   | 6.0                                                                               | 6.0                                                                                                                                                                 | 6.0                                                                               | 6.0                                                                               | 6.0                                                                                                                                                                                                                                                   | 6.0                                                                                | 5.0                                                                                 | 5.0                                                                                 |                                                                                     | 5.0                                                                                 | 5.0                                                                                 |                                                                                     |
| Lead/Lag                                                              | Lead                                                                              | Lag                                                                                                                                                                 | Lag                                                                               | Lead                                                                              | Lag                                                                                                                                                                                                                                                   | Lag                                                                                |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Lead-Lag Optimize?                                                    | Yes                                                                               | Yes                                                                                                                                                                 | Yes                                                                               | Yes                                                                               | Yes                                                                                                                                                                                                                                                   | Yes                                                                                |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Recall Mode                                                           | None                                                                              | C-Max                                                                                                                                                               | C-Max                                                                             | None                                                                              | C-Max                                                                                                                                                                                                                                                 | C-Max                                                                              | Max                                                                                 | Max                                                                                 |                                                                                     | Max                                                                                 | Max                                                                                 |                                                                                     |
| Act Effect Green (s)                                                  | 40.8                                                                              | 35.2                                                                                                                                                                | 35.2                                                                              | 36.0                                                                              | 31.0                                                                                                                                                                                                                                                  | 31.0                                                                               | 5.0                                                                                 | 5.0                                                                                 | 60.0                                                                                | 5.0                                                                                 | 5.0                                                                                 |                                                                                     |
| Actuated g/C Ratio                                                    | 0.68                                                                              | 0.59                                                                                                                                                                | 0.59                                                                              | 0.60                                                                              | 0.52                                                                                                                                                                                                                                                  | 0.52                                                                               | 0.08                                                                                | 0.08                                                                                | 1.00                                                                                | 0.08                                                                                | 0.08                                                                                |                                                                                     |
| v/c Ratio                                                             | 0.93                                                                              | 1.12                                                                                                                                                                | 0.23                                                                              | 0.32                                                                              | 0.82                                                                                                                                                                                                                                                  | 0.21                                                                               | 1.22                                                                                | 0.10                                                                                | 0.03                                                                                | 0.78                                                                                | 1.33                                                                                |                                                                                     |
| Control Delay (s/veh)                                                 | 49.1                                                                              | 83.1                                                                                                                                                                | 3.6                                                                               | 6.7                                                                               | 15.5                                                                                                                                                                                                                                                  | 2.1                                                                                | 182.1                                                                               | 27.1                                                                                | 0.0                                                                                 | 70.5                                                                                | 190.1                                                                               |                                                                                     |
| Queue Delay                                                           | 0.0                                                                               | 0.0                                                                                                                                                                 | 0.0                                                                               | 0.0                                                                               | 0.0                                                                                                                                                                                                                                                   | 0.0                                                                                | 0.0                                                                                 | 0.0                                                                                 | 0.0                                                                                 | 0.0                                                                                 | 0.0                                                                                 |                                                                                     |
| Total Delay (s/veh)                                                   | 49.1                                                                              | 83.1                                                                                                                                                                | 3.6                                                                               | 6.7                                                                               | 15.5                                                                                                                                                                                                                                                  | 2.1                                                                                | 182.1                                                                               | 27.1                                                                                | 0.0                                                                                 | 70.5                                                                                | 190.1                                                                               |                                                                                     |
| LOS                                                                   | D                                                                                 | F                                                                                                                                                                   | A                                                                                 | A                                                                                 | B                                                                                                                                                                                                                                                     | A                                                                                  | F                                                                                   | C                                                                                   | A                                                                                   | E                                                                                   | F                                                                                   |                                                                                     |
| Approach Delay (s/veh)                                                |                                                                                   | 73.0                                                                                                                                                                |                                                                                   |                                                                                   | 14.1                                                                                                                                                                                                                                                  |                                                                                    |                                                                                     | 127.0                                                                               |                                                                                     |                                                                                     | 164.9                                                                               |                                                                                     |
| Approach LOS                                                          |                                                                                   | E                                                                                                                                                                   |                                                                                   |                                                                                   | B                                                                                                                                                                                                                                                     |                                                                                    |                                                                                     | F                                                                                   |                                                                                     |                                                                                     | F                                                                                   |                                                                                     |
| Queue Length 50th (ft)                                                | 150                                                                               | ~1171                                                                                                                                                               | 29                                                                                | 6                                                                                 | 217                                                                                                                                                                                                                                                   | 0                                                                                  | ~69                                                                                 | 6                                                                                   | 0                                                                                   | 35                                                                                  | ~120                                                                                |                                                                                     |
| Queue Length 95th (ft)                                                | m#173                                                                             | m#1134                                                                                                                                                              | m37                                                                               | 14                                                                                | 280                                                                                                                                                                                                                                                   | 25                                                                                 | #167                                                                                | 21                                                                                  | 0                                                                                   | #107                                                                                | #267                                                                                |                                                                                     |
| Internal Link Dist (ft)                                               |                                                                                   | 600                                                                                                                                                                 |                                                                                   |                                                                                   | 542                                                                                                                                                                                                                                                   |                                                                                    |                                                                                     | 565                                                                                 |                                                                                     |                                                                                     | 379                                                                                 |                                                                                     |
| Turn Bay Length (ft)                                                  | 530                                                                               |                                                                                                                                                                     | 380                                                                               | 330                                                                               |                                                                                                                                                                                                                                                       | 360                                                                                | 125                                                                                 |                                                                                     | 195                                                                                 | 110                                                                                 |                                                                                     |                                                                                     |
| Base Capacity (vph)                                                   | 330                                                                               | 2076                                                                                                                                                                | 1025                                                                              | 271                                                                               | 2627                                                                                                                                                                                                                                                  | 912                                                                                | 124                                                                                 | 155                                                                                 | 1583                                                                                | 124                                                                                 | 274                                                                                 |                                                                                     |
| Starvation Cap Reductn                                                | 0                                                                                 | 0                                                                                                                                                                   | 0                                                                                 | 0                                                                                 | 0                                                                                                                                                                                                                                                     | 0                                                                                  | 0                                                                                   | 0                                                                                   | 0                                                                                   | 0                                                                                   | 0                                                                                   |                                                                                     |
| Spillback Cap Reductn                                                 | 0                                                                                 | 0                                                                                                                                                                   | 0                                                                                 | 0                                                                                 | 0                                                                                                                                                                                                                                                     | 0                                                                                  | 0                                                                                   | 0                                                                                   | 0                                                                                   | 0                                                                                   | 0                                                                                   |                                                                                     |
| Storage Cap Reductn                                                   | 0                                                                                 | 0                                                                                                                                                                   | 0                                                                                 | 0                                                                                 | 0                                                                                                                                                                                                                                                     | 0                                                                                  | 0                                                                                   | 0                                                                                   | 0                                                                                   | 0                                                                                   | 0                                                                                   |                                                                                     |
| Reduced v/c Ratio                                                     | 0.93                                                                              | 1.12                                                                                                                                                                | 0.23                                                                              | 0.32                                                                              | 0.82                                                                                                                                                                                                                                                  | 0.21                                                                               | 1.22                                                                                | 0.10                                                                                | 0.03                                                                                | 0.78                                                                                | 1.33                                                                                |                                                                                     |
| Intersection Summary                                                  |                                                                                   |                                                                                                                                                                     |                                                                                   |                                                                                   |                                                                                                                                                                                                                                                       |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Cycle Length: 60                                                      |                                                                                   |                                                                                                                                                                     |                                                                                   |                                                                                   |                                                                                                                                                                                                                                                       |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Actuated Cycle Length: 60                                             |                                                                                   |                                                                                                                                                                     |                                                                                   |                                                                                   |                                                                                                                                                                                                                                                       |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green |                                                                                   |                                                                                                                                                                     |                                                                                   |                                                                                   |                                                                                                                                                                                                                                                       |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Natural Cycle: 70                                                     |                                                                                   |                                                                                                                                                                     |                                                                                   |                                                                                   |                                                                                                                                                                                                                                                       |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Control Type: Actuated-Coordinated                                    |                                                                                   |                                                                                                                                                                     |                                                                                   |                                                                                   |                                                                                                                                                                                                                                                       |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |

Maximum v/c Ratio: 1.33

Intersection Signal Delay (s/veh): 58.1

Intersection LOS: E

Intersection Capacity Utilization 110.4%

ICU Level of Service H

Analysis Period (min) 15

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

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

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 3: Golden Sage Road & E Woodmen Road



HCM Unsignalized Intersection Capacity Analysis  
4: Golden Sage Road & Woodmen Frontage Road

Total Traffic Conditions  
PM Peak Traffic Hour - 2030

|                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
|-----------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|
|                                   |  |  |  |  |  |  |
| Movement                          | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | NBL                                                                               | NBR                                                                               |
| Lane Configurations               |  |                                                                                   |                                                                                   |  |  |                                                                                   |
| Traffic Volume (veh/h)            | 5                                                                                 | 174                                                                               | 270                                                                               | 5                                                                                 | 508                                                                               | 1                                                                                 |
| Future Volume (Veh/h)             | 5                                                                                 | 174                                                                               | 270                                                                               | 5                                                                                 | 508                                                                               | 1                                                                                 |
| Sign Control                      | Stop                                                                              |                                                                                   |                                                                                   | Stop                                                                              | Free                                                                              |                                                                                   |
| Grade                             | 0%                                                                                |                                                                                   |                                                                                   | 0%                                                                                | 0%                                                                                |                                                                                   |
| Peak Hour Factor                  | 0.92                                                                              | 0.92                                                                              | 0.92                                                                              | 0.92                                                                              | 0.92                                                                              | 0.92                                                                              |
| Hourly flow rate (vph)            | 5                                                                                 | 189                                                                               | 293                                                                               | 5                                                                                 | 552                                                                               | 1                                                                                 |
| Pedestrians                       |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Lane Width (ft)                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Walking Speed (ft/s)              |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Percent Blockage                  |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Right turn flare (veh)            |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Median type                       |                                                                                   |                                                                                   |                                                                                   |                                                                                   | None                                                                              |                                                                                   |
| Median storage veh                |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Upstream signal (ft)              |                                                                                   |                                                                                   |                                                                                   |                                                                                   | 459                                                                               |                                                                                   |
| pX, platoon unblocked             |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| vC, conflicting volume            | 1105                                                                              | 0                                                                                 | 1296                                                                              | 1105                                                                              | 0                                                                                 |                                                                                   |
| vC1, stage 1 conf vol             |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| vC2, stage 2 conf vol             |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| vCu, unblocked vol                | 1105                                                                              | 0                                                                                 | 1296                                                                              | 1105                                                                              | 0                                                                                 |                                                                                   |
| tC, single (s)                    | 6.5                                                                               | 6.2                                                                               | 7.1                                                                               | 6.5                                                                               | 4.1                                                                               |                                                                                   |
| tC, 2 stage (s)                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| tF (s)                            | 4.0                                                                               | 3.3                                                                               | 3.5                                                                               | 4.0                                                                               | 2.2                                                                               |                                                                                   |
| p0 queue free %                   | 96                                                                                | 83                                                                                | 0                                                                                 | 96                                                                                | 66                                                                                |                                                                                   |
| cM capacity (veh/h)               | 139                                                                               | 1085                                                                              | 82                                                                                | 139                                                                               | 1623                                                                              |                                                                                   |
| Direction, Lane #                 | EB 1                                                                              | WB 1                                                                              | NB 1                                                                              |                                                                                   |                                                                                   |                                                                                   |
| Volume Total                      | 194                                                                               | 298                                                                               | 553                                                                               |                                                                                   |                                                                                   |                                                                                   |
| Volume Left                       | 0                                                                                 | 293                                                                               | 552                                                                               |                                                                                   |                                                                                   |                                                                                   |
| Volume Right                      | 189                                                                               | 0                                                                                 | 1                                                                                 |                                                                                   |                                                                                   |                                                                                   |
| cSH                               | 923                                                                               | 83                                                                                | 1623                                                                              |                                                                                   |                                                                                   |                                                                                   |
| Volume to Capacity                | 0.21                                                                              | 3.59                                                                              | 0.34                                                                              |                                                                                   |                                                                                   |                                                                                   |
| Queue Length 95th (ft)            | 20                                                                                | Err                                                                               | 38                                                                                |                                                                                   |                                                                                   |                                                                                   |
| Control Delay (s/veh)             | 9.9                                                                               | Err                                                                               | 8.3                                                                               |                                                                                   |                                                                                   |                                                                                   |
| Lane LOS                          | A                                                                                 | F                                                                                 | A                                                                                 |                                                                                   |                                                                                   |                                                                                   |
| Approach Delay (s/veh)            | 9.9                                                                               | Err                                                                               | 8.3                                                                               |                                                                                   |                                                                                   |                                                                                   |
| Approach LOS                      | A                                                                                 | F                                                                                 |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Intersection Summary              |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Average Delay                     | 2857.7                                                                            |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Intersection Capacity Utilization | 64.5%                                                                             |                                                                                   | ICU Level of Service                                                              |                                                                                   | C                                                                                 |                                                                                   |
| Analysis Period (min)             | 15                                                                                |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |

Intersection

Int Delay, s/veh 4.3

| Movement                 | EBL  | EBT  | EBR  | WBL  | WBT  | WBR  | NBL  | NBT  | NBR  | SBL  | SBT  | SBR  |
|--------------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Lane Configurations      |      | ↕    |      |      | ↕    |      |      | ↕    |      |      | ↕    |      |
| Traffic Vol, veh/h       | 4    | 4    | 9    | 34   | 7    | 5    | 8    | 21   | 34   | 1    | 20   | 5    |
| Future Vol, veh/h        | 4    | 4    | 9    | 34   | 7    | 5    | 8    | 21   | 34   | 1    | 20   | 5    |
| Conflicting Peds, #/hr   | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Sign Control             | Stop | Stop | Stop | Stop | Stop | Stop | Free | Free | Free | Free | Free | Free |
| RT Channelized           | -    | -    | None | -    | -    | None | -    | -    | None | -    | -    | 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                | 4    | 4    | 10   | 37   | 8    | 5    | 9    | 23   | 37   | 1    | 22   | 5    |

| Major/Minor          | Minor2 |       | Minor1 |       | Major1 |       | Major2 |   |   |       |   |   |
|----------------------|--------|-------|--------|-------|--------|-------|--------|---|---|-------|---|---|
| Conflicting Flow All | 71     | 104   | 24     | 85    | 88     | 41    | 27     | 0 | 0 | 60    | 0 | 0 |
| Stage 1              | 27     | 27    | -      | 59    | 59     | -     | -      | - | - | -     | - | - |
| Stage 2              | 44     | 77    | -      | 26    | 29     | -     | -      | - | - | -     | - | - |
| Critical Hdwy        | 7.12   | 6.52  | 6.22   | 7.12  | 6.52   | 6.22  | 4.12   | - | - | 4.12  | - | - |
| Critical Hdwy Stg 1  | 6.12   | 5.52  | -      | 6.12  | 5.52   | -     | -      | - | - | -     | - | - |
| Critical Hdwy Stg 2  | 6.12   | 5.52  | -      | 6.12  | 5.52   | -     | -      | - | - | -     | - | - |
| Follow-up Hdwy       | 3.518  | 4.018 | 3.318  | 3.518 | 4.018  | 3.318 | 2.218  | - | - | 2.218 | - | - |
| Pot Cap-1 Maneuver   | 921    | 786   | 1052   | 902   | 802    | 1030  | 1587   | - | - | 1544  | - | - |
| Stage 1              | 991    | 873   | -      | 953   | 846    | -     | -      | - | - | -     | - | - |
| Stage 2              | 970    | 831   | -      | 991   | 871    | -     | -      | - | - | -     | - | - |
| Platoon blocked, %   |        |       |        |       |        |       |        | - | - |       | - | - |
| Mov Cap-1 Maneuver   | 902    | 781   | 1052   | 883   | 797    | 1030  | 1587   | - | - | 1544  | - | - |
| Mov Cap-2 Maneuver   | 902    | 781   | -      | 883   | 797    | -     | -      | - | - | -     | - | - |
| Stage 1              | 990    | 872   | -      | 948   | 841    | -     | -      | - | - | -     | - | - |
| Stage 2              | 951    | 826   | -      | 977   | 870    | -     | -      | - | - | -     | - | - |

| Approach          | EB   |  | WB   |  | NB   |  | SB   |  |
|-------------------|------|--|------|--|------|--|------|--|
| HCM Ctrl Dly, s/v | 8.91 |  | 9.33 |  | 0.92 |  | 0.28 |  |
| HCM LOS           | A    |  | A    |  |      |  |      |  |

| Minor Lane/Major Mvmt | NBL   | NBT | NBR | EBLn1WBLn1 | SBL   | SBT   | SBR |
|-----------------------|-------|-----|-----|------------|-------|-------|-----|
| Capacity (veh/h)      | 203   | -   | -   | 939        | 882   | 67    | -   |
| HCM Lane V/C Ratio    | 0.005 | -   | -   | 0.02       | 0.057 | 0.001 | -   |
| HCM Ctrl Dly (s/v)    | 7.3   | 0   | -   | 8.9        | 9.3   | 7.3   | 0   |
| HCM Lane LOS          | A     | A   | -   | A          | A     | A     | -   |
| HCM 95th %tile Q(veh) | 0     | -   | -   | 0.1        | 0.2   | 0     | -   |

| Intersection                |          |          |          |          |          |          |
|-----------------------------|----------|----------|----------|----------|----------|----------|
| Intersection Delay, s/veh   | 6.7      |          |          |          |          |          |
| Intersection LOS            | A        |          |          |          |          |          |
| Approach                    | EB       | WB       | NB       | SB       |          |          |
| Entry Lanes                 | 1        | 1        | 2        | 2        |          |          |
| Conflicting Circle Lanes    | 2        | 2        | 2        | 2        |          |          |
| Adj Approach Flow, veh/h    | 192      | 213      | 946      | 484      |          |          |
| Demand Flow Rate, veh/h     | 196      | 218      | 965      | 494      |          |          |
| Vehicles Circulating, veh/h | 626      | 699      | 86       | 457      |          |          |
| Vehicles Exiting, veh/h     | 325      | 352      | 736      | 460      |          |          |
| Ped Vol Crossing Leg, #/h   | 0        | 0        | 0        | 0        |          |          |
| Ped Cap Adj                 | 1.000    | 1.000    | 1.000    | 1.000    |          |          |
| Approach Delay, s/veh       | 6.9      | 7.9      | 6.5      | 6.7      |          |          |
| Approach LOS                | A        | A        | A        | A        |          |          |
| Lane                        | Left     | Left     | Left     | Right    | Left     | Right    |
| Designated Moves            | LTR      | LTR      | LT       | TR       | LT       | TR       |
| Assumed Moves               | LTR      | LTR      | LT       | TR       | LT       | TR       |
| RT Channelized              |          |          |          |          |          |          |
| Lane Util                   | 1.000    | 1.000    | 0.470    | 0.530    | 0.470    | 0.530    |
| Follow-Up Headway, s        | 2.535    | 2.535    | 2.667    | 2.535    | 2.667    | 2.535    |
| Critical Headway, s         | 4.328    | 4.328    | 4.645    | 4.328    | 4.645    | 4.328    |
| A (Intercept)               | 1420     | 1420     | 1350     | 1420     | 1350     | 1420     |
| B (Slope)                   | 8.501e-4 | 8.501e-4 | 9.199e-4 | 8.501e-4 | 9.199e-4 | 8.501e-4 |
| Entry Flow, veh/h           | 196      | 218      | 454      | 511      | 232      | 262      |
| Cap Entry Lane, veh/h       | 834      | 784      | 1247     | 1320     | 887      | 963      |
| Entry HV Adj Factor         | 0.979    | 0.977    | 0.980    | 0.981    | 0.981    | 0.980    |
| Flow Entry, veh/h           | 192      | 213      | 445      | 501      | 228      | 257      |
| Cap Entry, veh/h            | 817      | 766      | 1222     | 1295     | 870      | 943      |
| V/C Ratio                   | 0.235    | 0.278    | 0.364    | 0.387    | 0.262    | 0.272    |
| Control Delay, s/veh        | 6.9      | 7.9      | 6.4      | 6.5      | 6.9      | 6.6      |
| LOS                         | A        | A        | A        | A        | A        | A        |
| 95th %tile Queue, veh       | 1        | 1        | 2        | 2        | 1        | 1        |

| Intersection                |          |          |          |          |          |          |
|-----------------------------|----------|----------|----------|----------|----------|----------|
| Intersection Delay, s/veh   | 11.1     |          |          |          |          |          |
| Intersection LOS            | B        |          |          |          |          |          |
| Approach                    | EB       | WB       | NB       | SB       |          |          |
| Entry Lanes                 | 1        | 1        | 2        | 2        |          |          |
| Conflicting Circle Lanes    | 2        | 2        | 2        | 2        |          |          |
| Adj Approach Flow, veh/h    | 140      | 356      | 1398     | 720      |          |          |
| Demand Flow Rate, veh/h     | 142      | 363      | 1426     | 735      |          |          |
| Vehicles Circulating, veh/h | 1000     | 1100     | 123      | 497      |          |          |
| Vehicles Exiting, veh/h     | 232      | 449      | 1019     | 966      |          |          |
| Ped Vol Crossing Leg, #/h   | 0        | 0        | 0        | 0        |          |          |
| Ped Cap Adj                 | 1.000    | 1.000    | 1.000    | 1.000    |          |          |
| Approach Delay, s/veh       | 9.0      | 21.3     | 9.7      | 9.0      |          |          |
| Approach LOS                | A        | C        | A        | A        |          |          |
| Lane                        | Left     | Left     | Left     | Right    | Left     | Right    |
| Designated Moves            | LTR      | LTR      | LT       | TR       | LT       | TR       |
| Assumed Moves               | LTR      | LTR      | LT       | TR       | LT       | TR       |
| RT Channelized              |          |          |          |          |          |          |
| Lane Util                   | 1.000    | 1.000    | 0.470    | 0.530    | 0.469    | 0.531    |
| Follow-Up Headway, s        | 2.535    | 2.535    | 2.667    | 2.535    | 2.667    | 2.535    |
| Critical Headway, s         | 4.328    | 4.328    | 4.645    | 4.328    | 4.645    | 4.328    |
| A (Intercept)               | 1420     | 1420     | 1350     | 1420     | 1350     | 1420     |
| B (Slope)                   | 8.501e-4 | 8.501e-4 | 9.199e-4 | 8.501e-4 | 9.199e-4 | 8.501e-4 |
| Entry Flow, veh/h           | 142      | 363      | 670      | 756      | 345      | 390      |
| Cap Entry Lane, veh/h       | 607      | 557      | 1205     | 1279     | 855      | 931      |
| Entry HV Adj Factor         | 0.985    | 0.980    | 0.980    | 0.980    | 0.981    | 0.979    |
| Flow Entry, veh/h           | 140      | 356      | 657      | 741      | 338      | 382      |
| Cap Entry, veh/h            | 598      | 547      | 1182     | 1253     | 838      | 911      |
| V/C Ratio                   | 0.234    | 0.651    | 0.556    | 0.591    | 0.404    | 0.419    |
| Control Delay, s/veh        | 9.0      | 21.3     | 9.6      | 9.9      | 9.2      | 8.9      |
| LOS                         | A        | C        | A        | A        | A        | A        |
| 95th %tile Queue, veh       | 1        | 5        | 4        | 4        | 2        | 2        |

Timings

8: Banning Lewis Parkway & Golden Jubilee Drive

Total Traffic Conditions

PM Peak Traffic Hour - 2030

|                         |  |  |  |  |  |  |  |  |  |  |  |  |
|-------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Lane Group              | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | WBR                                                                               | NBL                                                                                 | NBT                                                                                 | NBR                                                                                 | SBL                                                                                 | SBT                                                                                 | SBR                                                                                 |
| Lane Configurations     |  |  |  |  |  |  |  |  |  |  |  |  |
| Traffic Volume (vph)    | 672                                                                               | 5                                                                                 | 119                                                                               | 126                                                                               | 5                                                                                 | 711                                                                               | 96                                                                                  | 228                                                                                 | 121                                                                                 | 683                                                                                 | 169                                                                                 | 547                                                                                 |
| Future Volume (vph)     | 672                                                                               | 5                                                                                 | 119                                                                               | 126                                                                               | 5                                                                                 | 711                                                                               | 96                                                                                  | 228                                                                                 | 121                                                                                 | 683                                                                                 | 169                                                                                 | 547                                                                                 |
| Satd. Flow (prot)       | 1770                                                                              | 1863                                                                              | 1583                                                                              | 1770                                                                              | 1863                                                                              | 1583                                                                              | 1770                                                                                | 5085                                                                                | 1583                                                                                | 1770                                                                                | 3539                                                                                | 1583                                                                                |
| Flt Permitted           | 0.605                                                                             |                                                                                   |                                                                                   | 0.754                                                                             |                                                                                   |                                                                                   | 0.667                                                                               |                                                                                     |                                                                                     | 0.333                                                                               |                                                                                     |                                                                                     |
| Satd. Flow (perm)       | 1127                                                                              | 1863                                                                              | 1583                                                                              | 1405                                                                              | 1863                                                                              | 1583                                                                              | 1242                                                                                | 5085                                                                                | 1583                                                                                | 620                                                                                 | 3539                                                                                | 1583                                                                                |
| Satd. Flow (RTOR)       |                                                                                   |                                                                                   | 182                                                                               |                                                                                   |                                                                                   | 658                                                                               |                                                                                     |                                                                                     | 218                                                                                 |                                                                                     |                                                                                     | 595                                                                                 |
| Lane Group Flow (vph)   | 730                                                                               | 5                                                                                 | 129                                                                               | 137                                                                               | 5                                                                                 | 773                                                                               | 104                                                                                 | 248                                                                                 | 132                                                                                 | 742                                                                                 | 184                                                                                 | 595                                                                                 |
| Turn Type               | pm+pt                                                                             | NA                                                                                | Perm                                                                              | pm+pt                                                                             | NA                                                                                | Perm                                                                              | pm+pt                                                                               | NA                                                                                  | Perm                                                                                | pm+pt                                                                               | NA                                                                                  | Perm                                                                                |
| Protected Phases        | 7                                                                                 | 4                                                                                 |                                                                                   | 3                                                                                 | 8                                                                                 |                                                                                   | 5                                                                                   | 2                                                                                   |                                                                                     | 1                                                                                   | 6                                                                                   |                                                                                     |
| Permitted Phases        | 4                                                                                 |                                                                                   | 4                                                                                 | 8                                                                                 |                                                                                   | 8                                                                                 | 2                                                                                   |                                                                                     | 2                                                                                   | 6                                                                                   |                                                                                     | 6                                                                                   |
| Detector Phase          | 7                                                                                 | 4                                                                                 | 4                                                                                 | 3                                                                                 | 8                                                                                 | 8                                                                                 | 5                                                                                   | 2                                                                                   | 2                                                                                   | 1                                                                                   | 6                                                                                   | 6                                                                                   |
| Switch Phase            |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Minimum Initial (s)     | 5.0                                                                               | 5.0                                                                               | 5.0                                                                               | 5.0                                                                               | 5.0                                                                               | 5.0                                                                               | 5.0                                                                                 | 5.0                                                                                 | 5.0                                                                                 | 5.0                                                                                 | 5.0                                                                                 | 5.0                                                                                 |
| Minimum Split (s)       | 10.0                                                                              | 10.0                                                                              | 10.0                                                                              | 10.0                                                                              | 10.0                                                                              | 10.0                                                                              | 11.0                                                                                | 11.0                                                                                | 11.0                                                                                | 11.0                                                                                | 11.0                                                                                | 11.0                                                                                |
| Total Split (s)         | 30.0                                                                              | 49.0                                                                              | 49.0                                                                              | 11.0                                                                              | 30.0                                                                              | 30.0                                                                              | 15.0                                                                                | 12.0                                                                                | 12.0                                                                                | 48.0                                                                                | 45.0                                                                                | 45.0                                                                                |
| Total Split (%)         | 25.0%                                                                             | 40.8%                                                                             | 40.8%                                                                             | 9.2%                                                                              | 25.0%                                                                             | 25.0%                                                                             | 12.5%                                                                               | 10.0%                                                                               | 10.0%                                                                               | 40.0%                                                                               | 37.5%                                                                               | 37.5%                                                                               |
| Yellow Time (s)         | 3.0                                                                               | 3.0                                                                               | 3.0                                                                               | 3.0                                                                               | 3.0                                                                               | 3.0                                                                               | 4.0                                                                                 | 4.0                                                                                 | 4.0                                                                                 | 4.0                                                                                 | 4.0                                                                                 | 4.0                                                                                 |
| All-Red Time (s)        | 2.0                                                                               | 2.0                                                                               | 2.0                                                                               | 2.0                                                                               | 2.0                                                                               | 2.0                                                                               | 2.0                                                                                 | 2.0                                                                                 | 2.0                                                                                 | 2.0                                                                                 | 2.0                                                                                 | 2.0                                                                                 |
| Lost Time Adjust (s)    | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               | 0.0                                                                                 | 0.0                                                                                 | 0.0                                                                                 | 0.0                                                                                 | 0.0                                                                                 | 0.0                                                                                 |
| Total Lost Time (s)     | 5.0                                                                               | 5.0                                                                               | 5.0                                                                               | 5.0                                                                               | 5.0                                                                               | 5.0                                                                               | 6.0                                                                                 | 6.0                                                                                 | 6.0                                                                                 | 6.0                                                                                 | 6.0                                                                                 | 6.0                                                                                 |
| Lead/Lag                | Lead                                                                              | Lag                                                                               | Lag                                                                               | Lead                                                                              | Lag                                                                               | Lag                                                                               | Lead                                                                                | Lag                                                                                 | Lag                                                                                 | Lead                                                                                | Lag                                                                                 | Lag                                                                                 |
| Lead-Lag Optimize?      | Yes                                                                               | Yes                                                                               | Yes                                                                               | Yes                                                                               | Yes                                                                               | Yes                                                                               | Yes                                                                                 | Yes                                                                                 | Yes                                                                                 | Yes                                                                                 | Yes                                                                                 | Yes                                                                                 |
| Recall Mode             | None                                                                              | None                                                                              | None                                                                              | None                                                                              | None                                                                              | None                                                                              | None                                                                                | C-Max                                                                               | C-Max                                                                               | None                                                                                | C-Max                                                                               | C-Max                                                                               |
| Act Effct Green (s)     | 50.2                                                                              | 39.2                                                                              | 39.2                                                                              | 26.2                                                                              | 20.2                                                                              | 20.2                                                                              | 14.3                                                                                | 6.0                                                                                 | 6.0                                                                                 | 58.8                                                                                | 44.6                                                                                | 44.6                                                                                |
| Actuated g/C Ratio      | 0.42                                                                              | 0.33                                                                              | 0.33                                                                              | 0.22                                                                              | 0.17                                                                              | 0.17                                                                              | 0.12                                                                                | 0.05                                                                                | 0.05                                                                                | 0.49                                                                                | 0.37                                                                                | 0.37                                                                                |
| v/c Ratio               | 1.21                                                                              | 0.01                                                                              | 0.20                                                                              | 0.42                                                                              | 0.02                                                                              | 0.95                                                                              | 0.57                                                                                | 0.98                                                                                | 0.46                                                                                | 0.99                                                                                | 0.14                                                                                | 0.62                                                                                |
| Control Delay (s/veh)   | 138.6                                                                             | 24.2                                                                              | 1.7                                                                               | 29.9                                                                              | 38.0                                                                              | 30.0                                                                              | 39.1                                                                                | 107.8                                                                               | 5.3                                                                                 | 34.9                                                                                | 10.9                                                                                | 4.2                                                                                 |
| 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                                                                                 |
| Total Delay (s/veh)     | 138.6                                                                             | 24.2                                                                              | 1.7                                                                               | 29.9                                                                              | 38.0                                                                              | 30.0                                                                              | 39.1                                                                                | 107.8                                                                               | 5.3                                                                                 | 34.9                                                                                | 10.9                                                                                | 4.2                                                                                 |
| LOS                     | F                                                                                 | C                                                                                 | A                                                                                 | C                                                                                 | D                                                                                 | C                                                                                 | D                                                                                   | F                                                                                   | A                                                                                   | C                                                                                   | B                                                                                   | A                                                                                   |
| Approach Delay (s/veh)  |                                                                                   | 117.5                                                                             |                                                                                   |                                                                                   | 30.0                                                                              |                                                                                   |                                                                                     | 65.1                                                                                |                                                                                     |                                                                                     | 20.0                                                                                |                                                                                     |
| Approach LOS            |                                                                                   | F                                                                                 |                                                                                   |                                                                                   | C                                                                                 |                                                                                   |                                                                                     | E                                                                                   |                                                                                     |                                                                                     | B                                                                                   |                                                                                     |
| Queue Length 50th (ft)  | ~612                                                                              | 3                                                                                 | 0                                                                                 | 61                                                                                | 3                                                                                 | 85                                                                                | 46                                                                                  | 71                                                                                  | 0                                                                                   | ~567                                                                                | 30                                                                                  | 86                                                                                  |
| Queue Length 95th (ft)  | #888                                                                              | 11                                                                                | 13                                                                                | 102                                                                               | 14                                                                                | #368                                                                              | 85                                                                                  | #132                                                                                | 0                                                                                   | m#601                                                                               | m35                                                                                 | m99                                                                                 |
| Internal Link Dist (ft) |                                                                                   | 872                                                                               |                                                                                   |                                                                                   | 1012                                                                              |                                                                                   |                                                                                     | 5450                                                                                |                                                                                     |                                                                                     | 375                                                                                 |                                                                                     |
| Turn Bay Length (ft)    | 110                                                                               |                                                                                   | 110                                                                               | 110                                                                               |                                                                                   | 110                                                                               | 230                                                                                 |                                                                                     | 230                                                                                 | 230                                                                                 |                                                                                     |                                                                                     |
| Base Capacity (vph)     | 605                                                                               | 683                                                                               | 695                                                                               | 324                                                                               | 388                                                                               | 850                                                                               | 194                                                                                 | 254                                                                                 | 286                                                                                 | 752                                                                                 | 1314                                                                                | 962                                                                                 |
| Starvation Cap Reductn  | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                   | 0                                                                                   | 0                                                                                   | 0                                                                                   | 0                                                                                   | 0                                                                                   |
| Spillback Cap Reductn   | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                   | 0                                                                                   | 0                                                                                   | 0                                                                                   | 0                                                                                   | 0                                                                                   |
| Storage Cap Reductn     | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                   | 0                                                                                   | 0                                                                                   | 0                                                                                   | 0                                                                                   | 0                                                                                   |
| Reduced v/c Ratio       | 1.21                                                                              | 0.01                                                                              | 0.19                                                                              | 0.42                                                                              | 0.01                                                                              | 0.91                                                                              | 0.54                                                                                | 0.98                                                                                | 0.46                                                                                | 0.99                                                                                | 0.14                                                                                | 0.62                                                                                |

Intersection Summary

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 20 (17%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Natural Cycle: 140

Control Type: Actuated-Coordinated

Timings  
8: Banning Lewis Parkway & Golden Jubilee Drive

Total Traffic Conditions  
PM Peak Traffic Hour - 2030

Maximum v/c Ratio: 1.21

Intersection Signal Delay (s/veh): 50.4

Intersection LOS: D

Intersection Capacity Utilization 100.3%

ICU Level of Service G

Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.

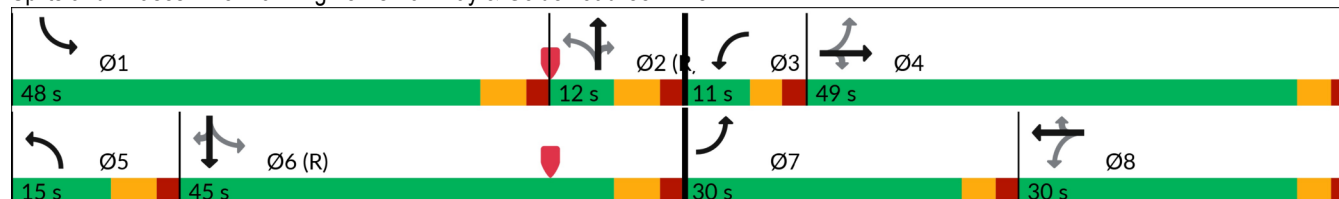
Queue shown is maximum after two cycles.

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

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 8: Banning Lewis Parkway & Golden Jubilee Drive



# Timings

1: Mohawk Road & E Woodmen Road

Total Traffic Conditions

AM Peak Traffic Hour - 2045

|                                                            |  |                                                                                                                                                                      |  |  |                                                                                                                                                                      |  |                                                                                      |  |  |  |  |  |
|------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Lane Group                                                 | EBL                                                                               | EBT                                                                                                                                                                                                                                                   | EBR                                                                               | WBL                                                                               | WBT                                                                                                                                                                                                                                                   | WBR                                                                               | NBL                                                                                                                                                                     | NBT                                                                                 | NBR                                                                                 | SBL                                                                                 | SBT                                                                                 | SBR                                                                                 |
| Lane Configurations                                        |  |    |  |  |    |  |   |  |  |  |  |  |
| Traffic Volume (vph)                                       | 87                                                                                | 2171                                                                                                                                                                                                                                                  | 162                                                                               | 129                                                                               | 3721                                                                                                                                                                                                                                                  | 33                                                                                | 278                                                                                                                                                                     | 7                                                                                   | 179                                                                                 | 95                                                                                  | 12                                                                                  | 146                                                                                 |
| Future Volume (vph)                                        | 87                                                                                | 2171                                                                                                                                                                                                                                                  | 162                                                                               | 129                                                                               | 3721                                                                                                                                                                                                                                                  | 33                                                                                | 278                                                                                                                                                                     | 7                                                                                   | 179                                                                                 | 95                                                                                  | 12                                                                                  | 146                                                                                 |
| Satd. Flow (prot)                                          | 1770                                                                              | 5085                                                                                                                                                                                                                                                  | 1583                                                                              | 1770                                                                              | 5085                                                                                                                                                                                                                                                  | 1583                                                                              | 3433                                                                                                                                                                    | 1863                                                                                | 1583                                                                                | 1770                                                                                | 1604                                                                                | 0                                                                                   |
| Flt Permitted                                              | 0.038                                                                             |                                                                                                                                                                                                                                                       |                                                                                   | 0.059                                                                             |                                                                                                                                                                                                                                                       |                                                                                   | 0.800                                                                                                                                                                   |                                                                                     |                                                                                     | 0.800                                                                               |                                                                                     |                                                                                     |
| Satd. Flow (perm)                                          | 71                                                                                | 5085                                                                                                                                                                                                                                                  | 1583                                                                              | 110                                                                               | 5085                                                                                                                                                                                                                                                  | 1583                                                                              | 2891                                                                                                                                                                    | 1863                                                                                | 1583                                                                                | 1490                                                                                | 1604                                                                                | 0                                                                                   |
| Satd. Flow (RTOR)                                          |                                                                                   |                                                                                                                                                                                                                                                       | 176                                                                               |                                                                                   |                                                                                                                                                                                                                                                       | 36                                                                                |                                                                                                                                                                         |                                                                                     | 27                                                                                  |                                                                                     | 2                                                                                   |                                                                                     |
| Lane Group Flow (vph)                                      | 95                                                                                | 2360                                                                                                                                                                                                                                                  | 176                                                                               | 140                                                                               | 4045                                                                                                                                                                                                                                                  | 36                                                                                | 302                                                                                                                                                                     | 8                                                                                   | 195                                                                                 | 103                                                                                 | 172                                                                                 | 0                                                                                   |
| Turn Type                                                  | Perm                                                                              | NA                                                                                                                                                                                                                                                    | Perm                                                                              | Perm                                                                              | NA                                                                                                                                                                                                                                                    | Perm                                                                              | Perm                                                                                                                                                                    | NA                                                                                  | Perm                                                                                | Perm                                                                                | NA                                                                                  |                                                                                     |
| Protected Phases                                           |                                                                                   | 2                                                                                                                                                                                                                                                     |                                                                                   |                                                                                   | 6                                                                                                                                                                                                                                                     |                                                                                   |                                                                                                                                                                         | 8                                                                                   |                                                                                     |                                                                                     | 4                                                                                   |                                                                                     |
| Permitted Phases                                           | 2                                                                                 |                                                                                                                                                                                                                                                       | 2                                                                                 | 6                                                                                 |                                                                                                                                                                                                                                                       | 6                                                                                 | 8                                                                                                                                                                       |                                                                                     | 8                                                                                   | 4                                                                                   |                                                                                     |                                                                                     |
| Detector Phase                                             | 2                                                                                 | 2                                                                                                                                                                                                                                                     | 2                                                                                 | 6                                                                                 | 6                                                                                                                                                                                                                                                     | 6                                                                                 | 8                                                                                                                                                                       | 8                                                                                   | 8                                                                                   | 4                                                                                   | 4                                                                                   |                                                                                     |
| Switch Phase                                               |                                                                                   |                                                                                                                                                                                                                                                       |                                                                                   |                                                                                   |                                                                                                                                                                                                                                                       |                                                                                   |                                                                                                                                                                         |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Minimum Initial (s)                                        | 5.0                                                                               | 5.0                                                                                                                                                                                                                                                   | 5.0                                                                               | 5.0                                                                               | 5.0                                                                                                                                                                                                                                                   | 5.0                                                                               | 5.0                                                                                                                                                                     | 5.0                                                                                 | 5.0                                                                                 | 5.0                                                                                 | 5.0                                                                                 |                                                                                     |
| Minimum Split (s)                                          | 11.0                                                                              | 11.0                                                                                                                                                                                                                                                  | 11.0                                                                              | 11.0                                                                              | 11.0                                                                                                                                                                                                                                                  | 11.0                                                                              | 10.0                                                                                                                                                                    | 10.0                                                                                | 10.0                                                                                | 10.0                                                                                | 10.0                                                                                |                                                                                     |
| Total Split (s)                                            | 110.0                                                                             | 110.0                                                                                                                                                                                                                                                 | 110.0                                                                             | 110.0                                                                             | 110.0                                                                                                                                                                                                                                                 | 110.0                                                                             | 10.0                                                                                                                                                                    | 10.0                                                                                | 10.0                                                                                | 10.0                                                                                | 10.0                                                                                |                                                                                     |
| Total Split (%)                                            | 91.7%                                                                             | 91.7%                                                                                                                                                                                                                                                 | 91.7%                                                                             | 91.7%                                                                             | 91.7%                                                                                                                                                                                                                                                 | 91.7%                                                                             | 8.3%                                                                                                                                                                    | 8.3%                                                                                | 8.3%                                                                                | 8.3%                                                                                | 8.3%                                                                                |                                                                                     |
| Yellow Time (s)                                            | 4.0                                                                               | 4.0                                                                                                                                                                                                                                                   | 4.0                                                                               | 4.0                                                                               | 4.0                                                                                                                                                                                                                                                   | 4.0                                                                               | 3.0                                                                                                                                                                     | 3.0                                                                                 | 3.0                                                                                 | 3.0                                                                                 | 3.0                                                                                 |                                                                                     |
| All-Red Time (s)                                           | 2.0                                                                               | 2.0                                                                                                                                                                                                                                                   | 2.0                                                                               | 2.0                                                                               | 2.0                                                                                                                                                                                                                                                   | 2.0                                                                               | 2.0                                                                                                                                                                     | 2.0                                                                                 | 2.0                                                                                 | 2.0                                                                                 | 2.0                                                                                 |                                                                                     |
| Lost Time Adjust (s)                                       | 0.0                                                                               | 0.0                                                                                                                                                                                                                                                   | 0.0                                                                               | 0.0                                                                               | 0.0                                                                                                                                                                                                                                                   | 0.0                                                                               | 0.0                                                                                                                                                                     | 0.0                                                                                 | 0.0                                                                                 | 0.0                                                                                 | 0.0                                                                                 |                                                                                     |
| Total Lost Time (s)                                        | 6.0                                                                               | 6.0                                                                                                                                                                                                                                                   | 6.0                                                                               | 6.0                                                                               | 6.0                                                                                                                                                                                                                                                   | 6.0                                                                               | 5.0                                                                                                                                                                     | 5.0                                                                                 | 5.0                                                                                 | 5.0                                                                                 | 5.0                                                                                 |                                                                                     |
| Lead/Lag                                                   |                                                                                   |                                                                                                                                                                                                                                                       |                                                                                   |                                                                                   |                                                                                                                                                                                                                                                       |                                                                                   |                                                                                                                                                                         |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Lead-Lag Optimize?                                         |                                                                                   |                                                                                                                                                                                                                                                       |                                                                                   |                                                                                   |                                                                                                                                                                                                                                                       |                                                                                   |                                                                                                                                                                         |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Recall Mode                                                | C-Max                                                                             | C-Max                                                                                                                                                                                                                                                 | C-Max                                                                             | Max                                                                               | Max                                                                                                                                                                                                                                                   | Max                                                                               | Max                                                                                                                                                                     | Max                                                                                 | Max                                                                                 | Max                                                                                 | Max                                                                                 |                                                                                     |
| Act Effect Green (s)                                       | 104.0                                                                             | 104.0                                                                                                                                                                                                                                                 | 104.0                                                                             | 104.0                                                                             | 104.0                                                                                                                                                                                                                                                 | 104.0                                                                             | 5.0                                                                                                                                                                     | 5.0                                                                                 | 5.0                                                                                 | 5.0                                                                                 | 5.0                                                                                 |                                                                                     |
| Actuated g/C Ratio                                         | 0.87                                                                              | 0.87                                                                                                                                                                                                                                                  | 0.87                                                                              | 0.87                                                                              | 0.87                                                                                                                                                                                                                                                  | 0.87                                                                              | 0.04                                                                                                                                                                    | 0.04                                                                                | 0.04                                                                                | 0.04                                                                                | 0.04                                                                                |                                                                                     |
| v/c Ratio                                                  | 1.56                                                                              | 0.54                                                                                                                                                                                                                                                  | 0.13                                                                              | 1.47                                                                              | 0.92                                                                                                                                                                                                                                                  | 0.03                                                                              | 2.52                                                                                                                                                                    | 0.10                                                                                | 2.14                                                                                | 1.66                                                                                | 2.53                                                                                |                                                                                     |
| Control Delay (s/veh)                                      | 335.3                                                                             | 2.5                                                                                                                                                                                                                                                   | 0.4                                                                               | 247.3                                                                             | 10.7                                                                                                                                                                                                                                                  | 0.3                                                                               | 730.0                                                                                                                                                                   | 58.4                                                                                | 572.8                                                                               | 393.4                                                                               | 752.6                                                                               |                                                                                     |
| Queue Delay                                                | 0.0                                                                               | 0.0                                                                                                                                                                                                                                                   | 0.0                                                                               | 0.0                                                                               | 0.0                                                                                                                                                                                                                                                   | 0.0                                                                               | 0.0                                                                                                                                                                     | 0.0                                                                                 | 0.0                                                                                 | 0.0                                                                                 | 0.0                                                                                 |                                                                                     |
| Total Delay (s/veh)                                        | 335.3                                                                             | 2.5                                                                                                                                                                                                                                                   | 0.4                                                                               | 247.3                                                                             | 10.7                                                                                                                                                                                                                                                  | 0.3                                                                               | 730.0                                                                                                                                                                   | 58.4                                                                                | 572.8                                                                               | 393.4                                                                               | 752.6                                                                               |                                                                                     |
| LOS                                                        | F                                                                                 | A                                                                                                                                                                                                                                                     | A                                                                                 | F                                                                                 | B                                                                                                                                                                                                                                                     | A                                                                                 | F                                                                                                                                                                       | E                                                                                   | F                                                                                   | F                                                                                   | F                                                                                   |                                                                                     |
| Approach Delay (s/veh)                                     |                                                                                   | 14.4                                                                                                                                                                                                                                                  |                                                                                   |                                                                                   | 18.5                                                                                                                                                                                                                                                  |                                                                                   |                                                                                                                                                                         | 658.6                                                                               |                                                                                     |                                                                                     | 618.1                                                                               |                                                                                     |
| Approach LOS                                               |                                                                                   | B                                                                                                                                                                                                                                                     |                                                                                   |                                                                                   | B                                                                                                                                                                                                                                                     |                                                                                   |                                                                                                                                                                         | F                                                                                   |                                                                                     |                                                                                     | F                                                                                   |                                                                                     |
| Queue Length 50th (ft)                                     | ~55                                                                               | 112                                                                                                                                                                                                                                                   | 0                                                                                 | ~149                                                                              | 337                                                                                                                                                                                                                                                   | 0                                                                                 | ~201                                                                                                                                                                    | 6                                                                                   | ~222                                                                                | ~116                                                                                | ~223                                                                                |                                                                                     |
| Queue Length 95th (ft)                                     | #170                                                                              | 127                                                                                                                                                                                                                                                   | 7                                                                                 | m#148                                                                             | m108                                                                                                                                                                                                                                                  | m0                                                                                | #293                                                                                                                                                                    | 23                                                                                  | #376                                                                                | #232                                                                                | #369                                                                                |                                                                                     |
| Internal Link Dist (ft)                                    |                                                                                   | 2474                                                                                                                                                                                                                                                  |                                                                                   |                                                                                   | 750                                                                                                                                                                                                                                                   |                                                                                   |                                                                                                                                                                         | 6246                                                                                |                                                                                     |                                                                                     | 419                                                                                 |                                                                                     |
| Turn Bay Length (ft)                                       | 300                                                                               |                                                                                                                                                                                                                                                       | 400                                                                               | 315                                                                               |                                                                                                                                                                                                                                                       | 370                                                                               | 150                                                                                                                                                                     |                                                                                     | 150                                                                                 | 50                                                                                  |                                                                                     |                                                                                     |
| Base Capacity (vph)                                        | 61                                                                                | 4407                                                                                                                                                                                                                                                  | 1395                                                                              | 95                                                                                | 4407                                                                                                                                                                                                                                                  | 1376                                                                              | 120                                                                                                                                                                     | 77                                                                                  | 91                                                                                  | 62                                                                                  | 68                                                                                  |                                                                                     |
| Starvation Cap Reductn                                     | 0                                                                                 | 0                                                                                                                                                                                                                                                     | 0                                                                                 | 0                                                                                 | 0                                                                                                                                                                                                                                                     | 0                                                                                 | 0                                                                                                                                                                       | 0                                                                                   | 0                                                                                   | 0                                                                                   | 0                                                                                   |                                                                                     |
| Spillback Cap Reductn                                      | 0                                                                                 | 0                                                                                                                                                                                                                                                     | 0                                                                                 | 0                                                                                 | 0                                                                                                                                                                                                                                                     | 0                                                                                 | 0                                                                                                                                                                       | 0                                                                                   | 0                                                                                   | 0                                                                                   | 0                                                                                   |                                                                                     |
| Storage Cap Reductn                                        | 0                                                                                 | 0                                                                                                                                                                                                                                                     | 0                                                                                 | 0                                                                                 | 0                                                                                                                                                                                                                                                     | 0                                                                                 | 0                                                                                                                                                                       | 0                                                                                   | 0                                                                                   | 0                                                                                   | 0                                                                                   |                                                                                     |
| Reduced v/c Ratio                                          | 1.56                                                                              | 0.54                                                                                                                                                                                                                                                  | 0.13                                                                              | 1.47                                                                              | 0.92                                                                                                                                                                                                                                                  | 0.03                                                                              | 2.52                                                                                                                                                                    | 0.10                                                                                | 2.14                                                                                | 1.66                                                                                | 2.53                                                                                |                                                                                     |
| Intersection Summary                                       |                                                                                   |                                                                                                                                                                                                                                                       |                                                                                   |                                                                                   |                                                                                                                                                                                                                                                       |                                                                                   |                                                                                                                                                                         |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Cycle Length: 120                                          |                                                                                   |                                                                                                                                                                                                                                                       |                                                                                   |                                                                                   |                                                                                                                                                                                                                                                       |                                                                                   |                                                                                                                                                                         |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Actuated Cycle Length: 120                                 |                                                                                   |                                                                                                                                                                                                                                                       |                                                                                   |                                                                                   |                                                                                                                                                                                                                                                       |                                                                                   |                                                                                                                                                                         |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Offset: 0 (0%), Referenced to phase 2:EBTL, Start of Green |                                                                                   |                                                                                                                                                                                                                                                       |                                                                                   |                                                                                   |                                                                                                                                                                                                                                                       |                                                                                   |                                                                                                                                                                         |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Natural Cycle: 70                                          |                                                                                   |                                                                                                                                                                                                                                                       |                                                                                   |                                                                                   |                                                                                                                                                                                                                                                       |                                                                                   |                                                                                                                                                                         |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Control Type: Actuated-Coordinated                         |                                                                                   |                                                                                                                                                                                                                                                       |                                                                                   |                                                                                   |                                                                                                                                                                                                                                                       |                                                                                   |                                                                                                                                                                         |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |

|                                                                   |                        |
|-------------------------------------------------------------------|------------------------|
| Maximum v/c Ratio: 2.53                                           |                        |
| Intersection Signal Delay (s/veh): 81.0                           | Intersection LOS: F    |
| Intersection Capacity Utilization 112.6%                          | ICU Level of Service H |
| Analysis Period (min) 15                                          |                        |
| ~ Volume exceeds capacity, queue is theoretically infinite.       |                        |
| Queue shown is maximum after two cycles.                          |                        |
| # 95th percentile volume exceeds capacity, queue may be longer.   |                        |
| Queue shown is maximum after two cycles.                          |                        |
| m Volume for 95th percentile queue is metered by upstream signal. |                        |

Splits and Phases: 1: Mohawk Road & E Woodmen Road



# Timings

## 2: Banning Lewis Parkway & E Woodmen Road

# Total Traffic Conditions

## AM Peak Traffic Hour - 2045

|                         |                                                                                    |                                                                                                                                                                      |  |                                                                                    |                                                                                                                                                                      |    |                                                                                      |                                                                                                                                                                          |  |                                                                                                                                                                          |                                                                                                                                                                          |  |
|-------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Lane Group              | EBL                                                                                                                                                                 | EBT                                                                                                                                                                                                                                                   | EBR                                                                               | WBL                                                                                                                                                                 | WBT                                                                                                                                                                                                                                                   | WBR                                                                                 | NBL                                                                                                                                                                     | NBT                                                                                                                                                                                                                                                         | NBR                                                                                 | SBL                                                                                                                                                                                                                                                         | SBT                                                                                                                                                                                                                                                         | SBR                                                                                 |
| Lane Configurations     |   |    |  |   |    |  |   |    |  |    |    |  |
| Traffic Volume (vph)    | 340                                                                                                                                                                 | 1418                                                                                                                                                                                                                                                  | 444                                                                               | 482                                                                                                                                                                 | 2840                                                                                                                                                                                                                                                  | 117                                                                                 | 430                                                                                                                                                                     | 168                                                                                                                                                                                                                                                         | 288                                                                                 | 337                                                                                                                                                                                                                                                         | 282                                                                                                                                                                                                                                                         | 485                                                                                 |
| Future Volume (vph)     | 340                                                                                                                                                                 | 1418                                                                                                                                                                                                                                                  | 444                                                                               | 482                                                                                                                                                                 | 2840                                                                                                                                                                                                                                                  | 117                                                                                 | 430                                                                                                                                                                     | 168                                                                                                                                                                                                                                                         | 288                                                                                 | 337                                                                                                                                                                                                                                                         | 282                                                                                                                                                                                                                                                         | 485                                                                                 |
| Satd. Flow (prot)       | 3433                                                                                                                                                                | 5085                                                                                                                                                                                                                                                  | 1583                                                                              | 3433                                                                                                                                                                | 5085                                                                                                                                                                                                                                                  | 1583                                                                                | 3433                                                                                                                                                                    | 5085                                                                                                                                                                                                                                                        | 1583                                                                                | 3433                                                                                                                                                                                                                                                        | 5085                                                                                                                                                                                                                                                        | 1583                                                                                |
| Flt Permitted           | 0.950                                                                                                                                                               |                                                                                                                                                                                                                                                       |                                                                                   | 0.950                                                                                                                                                               |                                                                                                                                                                                                                                                       |                                                                                     | 0.950                                                                                                                                                                   |                                                                                                                                                                                                                                                             |                                                                                     | 0.950                                                                                                                                                                                                                                                       |                                                                                                                                                                                                                                                             |                                                                                     |
| Satd. Flow (perm)       | 3433                                                                                                                                                                | 5085                                                                                                                                                                                                                                                  | 1583                                                                              | 3433                                                                                                                                                                | 5085                                                                                                                                                                                                                                                  | 1583                                                                                | 3433                                                                                                                                                                    | 5085                                                                                                                                                                                                                                                        | 1583                                                                                | 3433                                                                                                                                                                                                                                                        | 5085                                                                                                                                                                                                                                                        | 1583                                                                                |
| Satd. Flow (RTOR)       |                                                                                                                                                                     |                                                                                                                                                                                                                                                       | 283                                                                               |                                                                                                                                                                     |                                                                                                                                                                                                                                                       | 245                                                                                 |                                                                                                                                                                         |                                                                                                                                                                                                                                                             | 313                                                                                 |                                                                                                                                                                                                                                                             |                                                                                                                                                                                                                                                             | 245                                                                                 |
| Lane Group Flow (vph)   | 370                                                                                                                                                                 | 1541                                                                                                                                                                                                                                                  | 483                                                                               | 524                                                                                                                                                                 | 3087                                                                                                                                                                                                                                                  | 127                                                                                 | 467                                                                                                                                                                     | 183                                                                                                                                                                                                                                                         | 313                                                                                 | 366                                                                                                                                                                                                                                                         | 307                                                                                                                                                                                                                                                         | 527                                                                                 |
| Turn Type               | Prot                                                                                                                                                                | NA                                                                                                                                                                                                                                                    | Free                                                                              | Prot                                                                                                                                                                | NA                                                                                                                                                                                                                                                    | Free                                                                                | Prot                                                                                                                                                                    | NA                                                                                                                                                                                                                                                          | Free                                                                                | Prot                                                                                                                                                                                                                                                        | NA                                                                                                                                                                                                                                                          | Free                                                                                |
| Protected Phases        | 5                                                                                                                                                                   | 2                                                                                                                                                                                                                                                     |                                                                                   | 1                                                                                                                                                                   | 6                                                                                                                                                                                                                                                     |                                                                                     | 7                                                                                                                                                                       | 4                                                                                                                                                                                                                                                           |                                                                                     | 3                                                                                                                                                                                                                                                           | 8                                                                                                                                                                                                                                                           |                                                                                     |
| Permitted Phases        |                                                                                                                                                                     |                                                                                                                                                                                                                                                       | Free                                                                              |                                                                                                                                                                     |                                                                                                                                                                                                                                                       | Free                                                                                |                                                                                                                                                                         |                                                                                                                                                                                                                                                             | Free                                                                                |                                                                                                                                                                                                                                                             |                                                                                                                                                                                                                                                             | Free                                                                                |
| Detector Phase          | 5                                                                                                                                                                   | 2                                                                                                                                                                                                                                                     |                                                                                   | 1                                                                                                                                                                   | 6                                                                                                                                                                                                                                                     |                                                                                     | 7                                                                                                                                                                       | 4                                                                                                                                                                                                                                                           |                                                                                     | 3                                                                                                                                                                                                                                                           | 8                                                                                                                                                                                                                                                           |                                                                                     |
| Switch Phase            |                                                                                                                                                                     |                                                                                                                                                                                                                                                       |                                                                                   |                                                                                                                                                                     |                                                                                                                                                                                                                                                       |                                                                                     |                                                                                                                                                                         |                                                                                                                                                                                                                                                             |                                                                                     |                                                                                                                                                                                                                                                             |                                                                                                                                                                                                                                                             |                                                                                     |
| Minimum Initial (s)     | 5.0                                                                                                                                                                 | 5.0                                                                                                                                                                                                                                                   |                                                                                   | 5.0                                                                                                                                                                 | 5.0                                                                                                                                                                                                                                                   |                                                                                     | 5.0                                                                                                                                                                     | 5.0                                                                                                                                                                                                                                                         |                                                                                     | 5.0                                                                                                                                                                                                                                                         | 5.0                                                                                                                                                                                                                                                         |                                                                                     |
| Minimum Split (s)       | 11.0                                                                                                                                                                | 11.0                                                                                                                                                                                                                                                  |                                                                                   | 11.0                                                                                                                                                                | 11.0                                                                                                                                                                                                                                                  |                                                                                     | 11.0                                                                                                                                                                    | 11.0                                                                                                                                                                                                                                                        |                                                                                     | 11.0                                                                                                                                                                                                                                                        | 11.0                                                                                                                                                                                                                                                        |                                                                                     |
| Total Split (s)         | 17.0                                                                                                                                                                | 56.0                                                                                                                                                                                                                                                  |                                                                                   | 32.0                                                                                                                                                                | 71.0                                                                                                                                                                                                                                                  |                                                                                     | 20.0                                                                                                                                                                    | 13.0                                                                                                                                                                                                                                                        |                                                                                     | 19.0                                                                                                                                                                                                                                                        | 12.0                                                                                                                                                                                                                                                        |                                                                                     |
| Total Split (%)         | 14.2%                                                                                                                                                               | 46.7%                                                                                                                                                                                                                                                 |                                                                                   | 26.7%                                                                                                                                                               | 59.2%                                                                                                                                                                                                                                                 |                                                                                     | 16.7%                                                                                                                                                                   | 10.8%                                                                                                                                                                                                                                                       |                                                                                     | 15.8%                                                                                                                                                                                                                                                       | 10.0%                                                                                                                                                                                                                                                       |                                                                                     |
| Yellow Time (s)         | 4.0                                                                                                                                                                 | 4.0                                                                                                                                                                                                                                                   |                                                                                   | 4.0                                                                                                                                                                 | 4.0                                                                                                                                                                                                                                                   |                                                                                     | 4.0                                                                                                                                                                     | 4.0                                                                                                                                                                                                                                                         |                                                                                     | 4.0                                                                                                                                                                                                                                                         | 4.0                                                                                                                                                                                                                                                         |                                                                                     |
| All-Red Time (s)        | 2.0                                                                                                                                                                 | 2.0                                                                                                                                                                                                                                                   |                                                                                   | 2.0                                                                                                                                                                 | 2.0                                                                                                                                                                                                                                                   |                                                                                     | 2.0                                                                                                                                                                     | 2.0                                                                                                                                                                                                                                                         |                                                                                     | 2.0                                                                                                                                                                                                                                                         | 2.0                                                                                                                                                                                                                                                         |                                                                                     |
| Lost Time Adjust (s)    | 0.0                                                                                                                                                                 | 0.0                                                                                                                                                                                                                                                   |                                                                                   | 0.0                                                                                                                                                                 | 0.0                                                                                                                                                                                                                                                   |                                                                                     | 0.0                                                                                                                                                                     | 0.0                                                                                                                                                                                                                                                         |                                                                                     | 0.0                                                                                                                                                                                                                                                         | 0.0                                                                                                                                                                                                                                                         |                                                                                     |
| Total Lost Time (s)     | 6.0                                                                                                                                                                 | 6.0                                                                                                                                                                                                                                                   |                                                                                   | 6.0                                                                                                                                                                 | 6.0                                                                                                                                                                                                                                                   |                                                                                     | 6.0                                                                                                                                                                     | 6.0                                                                                                                                                                                                                                                         |                                                                                     | 6.0                                                                                                                                                                                                                                                         | 6.0                                                                                                                                                                                                                                                         |                                                                                     |
| Lead/Lag                | Lead                                                                                                                                                                | Lag                                                                                                                                                                                                                                                   |                                                                                   | Lead                                                                                                                                                                | Lag                                                                                                                                                                                                                                                   |                                                                                     | Lead                                                                                                                                                                    | Lag                                                                                                                                                                                                                                                         |                                                                                     | Lead                                                                                                                                                                                                                                                        | Lag                                                                                                                                                                                                                                                         |                                                                                     |
| Lead-Lag Optimize?      | Yes                                                                                                                                                                 | Yes                                                                                                                                                                                                                                                   |                                                                                   | Yes                                                                                                                                                                 | Yes                                                                                                                                                                                                                                                   |                                                                                     | Yes                                                                                                                                                                     | Yes                                                                                                                                                                                                                                                         |                                                                                     | Yes                                                                                                                                                                                                                                                         | Yes                                                                                                                                                                                                                                                         |                                                                                     |
| Recall Mode             | None                                                                                                                                                                | C-Max                                                                                                                                                                                                                                                 |                                                                                   | None                                                                                                                                                                | C-Max                                                                                                                                                                                                                                                 |                                                                                     | None                                                                                                                                                                    | Max                                                                                                                                                                                                                                                         |                                                                                     | None                                                                                                                                                                                                                                                        | Max                                                                                                                                                                                                                                                         |                                                                                     |
| Act Effect Green (s)    | 11.0                                                                                                                                                                | 53.2                                                                                                                                                                                                                                                  | 120.0                                                                             | 22.8                                                                                                                                                                | 65.0                                                                                                                                                                                                                                                  | 120.0                                                                               | 14.0                                                                                                                                                                    | 7.0                                                                                                                                                                                                                                                         | 120.0                                                                               | 13.0                                                                                                                                                                                                                                                        | 6.0                                                                                                                                                                                                                                                         | 120.0                                                                               |
| Actuated g/C Ratio      | 0.09                                                                                                                                                                | 0.44                                                                                                                                                                                                                                                  | 1.00                                                                              | 0.19                                                                                                                                                                | 0.54                                                                                                                                                                                                                                                  | 1.00                                                                                | 0.12                                                                                                                                                                    | 0.06                                                                                                                                                                                                                                                        | 1.00                                                                                | 0.11                                                                                                                                                                                                                                                        | 0.05                                                                                                                                                                                                                                                        | 1.00                                                                                |
| v/c Ratio               | 1.18                                                                                                                                                                | 0.68                                                                                                                                                                                                                                                  | 0.31                                                                              | 0.80                                                                                                                                                                | 1.12                                                                                                                                                                                                                                                  | 0.08                                                                                | 1.17                                                                                                                                                                    | 0.62                                                                                                                                                                                                                                                        | 0.20                                                                                | 0.99                                                                                                                                                                                                                                                        | 1.21                                                                                                                                                                                                                                                        | 0.33                                                                                |
| Control Delay (s/veh)   | 147.5                                                                                                                                                               | 30.6                                                                                                                                                                                                                                                  | 0.4                                                                               | 44.2                                                                                                                                                                | 80.0                                                                                                                                                                                                                                                  | 0.0                                                                                 | 147.1                                                                                                                                                                   | 64.7                                                                                                                                                                                                                                                        | 0.3                                                                                 | 97.1                                                                                                                                                                                                                                                        | 172.4                                                                                                                                                                                                                                                       | 0.6                                                                                 |
| 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                                                                                 |
| Total Delay (s/veh)     | 147.5                                                                                                                                                               | 30.6                                                                                                                                                                                                                                                  | 0.4                                                                               | 44.2                                                                                                                                                                | 80.0                                                                                                                                                                                                                                                  | 0.0                                                                                 | 147.1                                                                                                                                                                   | 64.7                                                                                                                                                                                                                                                        | 0.3                                                                                 | 97.1                                                                                                                                                                                                                                                        | 172.4                                                                                                                                                                                                                                                       | 0.6                                                                                 |
| LOS                     | F                                                                                                                                                                   | C                                                                                                                                                                                                                                                     | A                                                                                 | D                                                                                                                                                                   | E                                                                                                                                                                                                                                                     | A                                                                                   | F                                                                                                                                                                       | E                                                                                                                                                                                                                                                           | A                                                                                   | F                                                                                                                                                                                                                                                           | F                                                                                                                                                                                                                                                           | A                                                                                   |
| Approach Delay (s/veh)  |                                                                                                                                                                     | 42.6                                                                                                                                                                                                                                                  |                                                                                   |                                                                                                                                                                     | 72.3                                                                                                                                                                                                                                                  |                                                                                     |                                                                                                                                                                         | 83.7                                                                                                                                                                                                                                                        |                                                                                     |                                                                                                                                                                                                                                                             | 74.0                                                                                                                                                                                                                                                        |                                                                                     |
| Approach LOS            |                                                                                                                                                                     | D                                                                                                                                                                                                                                                     |                                                                                   |                                                                                                                                                                     | E                                                                                                                                                                                                                                                     |                                                                                     |                                                                                                                                                                         | F                                                                                                                                                                                                                                                           |                                                                                     |                                                                                                                                                                                                                                                             | E                                                                                                                                                                                                                                                           |                                                                                     |
| Queue Length 50th (ft)  | ~178                                                                                                                                                                | 341                                                                                                                                                                                                                                                   | 0                                                                                 | 208                                                                                                                                                                 | ~1021                                                                                                                                                                                                                                                 | 0                                                                                   | ~224                                                                                                                                                                    | 49                                                                                                                                                                                                                                                          | 0                                                                                   | 147                                                                                                                                                                                                                                                         | ~106                                                                                                                                                                                                                                                        | 0                                                                                   |
| Queue Length 95th (ft)  | m#251                                                                                                                                                               | m384                                                                                                                                                                                                                                                  | m0                                                                                | m143                                                                                                                                                                | m353                                                                                                                                                                                                                                                  | m0                                                                                  | #334                                                                                                                                                                    | 77                                                                                                                                                                                                                                                          | 0                                                                                   | #247                                                                                                                                                                                                                                                        | #172                                                                                                                                                                                                                                                        | 0                                                                                   |
| Internal Link Dist (ft) |                                                                                                                                                                     | 712                                                                                                                                                                                                                                                   |                                                                                   |                                                                                                                                                                     | 722                                                                                                                                                                                                                                                   |                                                                                     |                                                                                                                                                                         | 667                                                                                                                                                                                                                                                         |                                                                                     |                                                                                                                                                                                                                                                             | 695                                                                                                                                                                                                                                                         |                                                                                     |
| Turn Bay Length (ft)    | 285                                                                                                                                                                 |                                                                                                                                                                                                                                                       |                                                                                   | 285                                                                                                                                                                 |                                                                                                                                                                                                                                                       | 225                                                                                 | 185                                                                                                                                                                     |                                                                                                                                                                                                                                                             | 185                                                                                 | 185                                                                                                                                                                                                                                                         |                                                                                                                                                                                                                                                             | 185                                                                                 |
| Base Capacity (vph)     | 314                                                                                                                                                                 | 2253                                                                                                                                                                                                                                                  | 1583                                                                              | 743                                                                                                                                                                 | 2754                                                                                                                                                                                                                                                  | 1583                                                                                | 400                                                                                                                                                                     | 296                                                                                                                                                                                                                                                         | 1583                                                                                | 371                                                                                                                                                                                                                                                         | 254                                                                                                                                                                                                                                                         | 1583                                                                                |
| Starvation Cap Reductn  | 0                                                                                                                                                                   | 0                                                                                                                                                                                                                                                     | 0                                                                                 | 0                                                                                                                                                                   | 0                                                                                                                                                                                                                                                     | 0                                                                                   | 0                                                                                                                                                                       | 0                                                                                                                                                                                                                                                           | 0                                                                                   | 0                                                                                                                                                                                                                                                           | 0                                                                                                                                                                                                                                                           | 0                                                                                   |
| Spillback Cap Reductn   | 0                                                                                                                                                                   | 0                                                                                                                                                                                                                                                     | 0                                                                                 | 0                                                                                                                                                                   | 0                                                                                                                                                                                                                                                     | 0                                                                                   | 0                                                                                                                                                                       | 0                                                                                                                                                                                                                                                           | 0                                                                                   | 0                                                                                                                                                                                                                                                           | 0                                                                                                                                                                                                                                                           | 0                                                                                   |
| Storage Cap Reductn     | 0                                                                                                                                                                   | 0                                                                                                                                                                                                                                                     | 0                                                                                 | 0                                                                                                                                                                   | 0                                                                                                                                                                                                                                                     | 0                                                                                   | 0                                                                                                                                                                       | 0                                                                                                                                                                                                                                                           | 0                                                                                   | 0                                                                                                                                                                                                                                                           | 0                                                                                                                                                                                                                                                           | 0                                                                                   |
| Reduced v/c Ratio       | 1.18                                                                                                                                                                | 0.68                                                                                                                                                                                                                                                  | 0.31                                                                              | 0.71                                                                                                                                                                | 1.12                                                                                                                                                                                                                                                  | 0.08                                                                                | 1.17                                                                                                                                                                    | 0.62                                                                                                                                                                                                                                                        | 0.20                                                                                | 0.99                                                                                                                                                                                                                                                        | 1.21                                                                                                                                                                                                                                                        | 0.33                                                                                |

### Intersection Summary

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Green

Natural Cycle: 140

Control Type: Actuated-Coordinated

Timings  
2: Banning Lewis Parkway & E Woodmen Road

Total Traffic Conditions  
AM Peak Traffic Hour - 2045

Maximum v/c Ratio: 1.21

Intersection Signal Delay (s/veh): 65.3

Intersection LOS: E

Intersection Capacity Utilization 102.3%

ICU Level of Service G

Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.

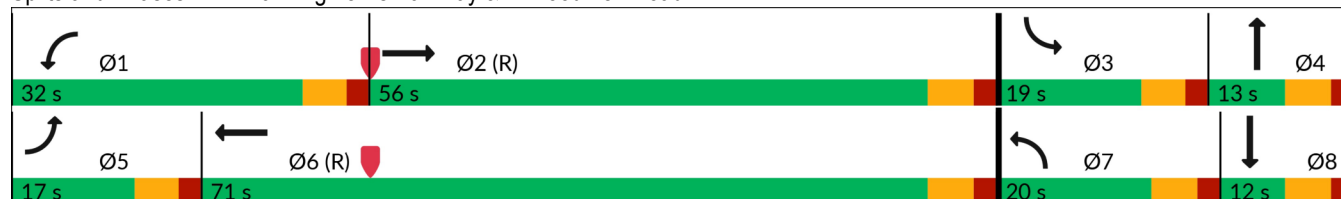
Queue shown is maximum after two cycles.

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

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 2: Banning Lewis Parkway & E Woodmen Road



Timings

3: Golden Sage Road & E Woodmen Road

Total Traffic Conditions

AM Peak Traffic Hour - 2045

|                         |  |                                                                                                                                                                      |  |  |                                                                                                                                                                      |  |  |  |  |  |  |  |
|-------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Lane Group              | EBL                                                                               | EBT                                                                                                                                                                                                                                                   | EBR                                                                               | WBL                                                                               | WBT                                                                                                                                                                                                                                                   | WBR                                                                               | NBL                                                                                 | NBT                                                                                 | NBR                                                                                 | SBL                                                                                 | SBT                                                                                 | SBR                                                                                 |
| Lane Configurations     |  |    |  |  |    |  |  |  |  |  |  |  |
| Traffic Volume (vph)    | 178                                                                               | 1756                                                                                                                                                                                                                                                  | 109                                                                               | 36                                                                                | 2639                                                                                                                                                                                                                                                  | 173                                                                               | 197                                                                                 | 3                                                                                   | 22                                                                                  | 121                                                                                 | 12                                                                                  | 592                                                                                 |
| Future Volume (vph)     | 178                                                                               | 1756                                                                                                                                                                                                                                                  | 109                                                                               | 36                                                                                | 2639                                                                                                                                                                                                                                                  | 173                                                                               | 197                                                                                 | 3                                                                                   | 22                                                                                  | 121                                                                                 | 12                                                                                  | 592                                                                                 |
| Satd. Flow (prot)       | 1770                                                                              | 5085                                                                                                                                                                                                                                                  | 1583                                                                              | 1770                                                                              | 5085                                                                                                                                                                                                                                                  | 1583                                                                              | 1770                                                                                | 1863                                                                                | 1583                                                                                | 1770                                                                                | 1589                                                                                | 0                                                                                   |
| Flt Permitted           | 0.154                                                                             |                                                                                                                                                                                                                                                       |                                                                                   | 0.174                                                                             |                                                                                                                                                                                                                                                       |                                                                                   | 0.267                                                                               |                                                                                     |                                                                                     | 0.756                                                                               |                                                                                     |                                                                                     |
| Satd. Flow (perm)       | 287                                                                               | 5085                                                                                                                                                                                                                                                  | 1583                                                                              | 324                                                                               | 5085                                                                                                                                                                                                                                                  | 1583                                                                              | 497                                                                                 | 1863                                                                                | 1583                                                                                | 1408                                                                                | 1589                                                                                | 0                                                                                   |
| Satd. Flow (RTOR)       |                                                                                   |                                                                                                                                                                                                                                                       | 145                                                                               |                                                                                   |                                                                                                                                                                                                                                                       | 188                                                                               |                                                                                     |                                                                                     | 255                                                                                 |                                                                                     | 195                                                                                 |                                                                                     |
| Lane Group Flow (vph)   | 193                                                                               | 1909                                                                                                                                                                                                                                                  | 118                                                                               | 39                                                                                | 2868                                                                                                                                                                                                                                                  | 188                                                                               | 214                                                                                 | 3                                                                                   | 24                                                                                  | 132                                                                                 | 656                                                                                 | 0                                                                                   |
| Turn Type               | pm+pt                                                                             | NA                                                                                                                                                                                                                                                    | Perm                                                                              | pm+pt                                                                             | NA                                                                                                                                                                                                                                                    | Perm                                                                              | Perm                                                                                | NA                                                                                  | Free                                                                                | Perm                                                                                | NA                                                                                  |                                                                                     |
| Protected Phases        | 5                                                                                 | 2                                                                                                                                                                                                                                                     |                                                                                   | 1                                                                                 | 6                                                                                                                                                                                                                                                     |                                                                                   |                                                                                     | 4                                                                                   |                                                                                     |                                                                                     | 8                                                                                   |                                                                                     |
| Permitted Phases        | 2                                                                                 |                                                                                                                                                                                                                                                       | 2                                                                                 | 6                                                                                 |                                                                                                                                                                                                                                                       | 6                                                                                 | 4                                                                                   |                                                                                     | Free                                                                                | 8                                                                                   |                                                                                     |                                                                                     |
| Detector Phase          | 5                                                                                 | 2                                                                                                                                                                                                                                                     | 2                                                                                 | 1                                                                                 | 6                                                                                                                                                                                                                                                     | 6                                                                                 | 4                                                                                   | 4                                                                                   |                                                                                     | 8                                                                                   | 8                                                                                   |                                                                                     |
| Switch Phase            |                                                                                   |                                                                                                                                                                                                                                                       |                                                                                   |                                                                                   |                                                                                                                                                                                                                                                       |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Minimum Initial (s)     | 5.0                                                                               | 5.0                                                                                                                                                                                                                                                   | 5.0                                                                               | 5.0                                                                               | 5.0                                                                                                                                                                                                                                                   | 5.0                                                                               | 5.0                                                                                 | 5.0                                                                                 |                                                                                     | 5.0                                                                                 | 5.0                                                                                 |                                                                                     |
| Minimum Split (s)       | 11.0                                                                              | 11.0                                                                                                                                                                                                                                                  | 11.0                                                                              | 11.0                                                                              | 11.0                                                                                                                                                                                                                                                  | 11.0                                                                              | 10.0                                                                                | 10.0                                                                                |                                                                                     | 10.0                                                                                | 10.0                                                                                |                                                                                     |
| Total Split (s)         | 11.0                                                                              | 29.0                                                                                                                                                                                                                                                  | 29.0                                                                              | 11.0                                                                              | 29.0                                                                                                                                                                                                                                                  | 29.0                                                                              | 20.0                                                                                | 20.0                                                                                |                                                                                     | 20.0                                                                                | 20.0                                                                                |                                                                                     |
| Total Split (%)         | 18.3%                                                                             | 48.3%                                                                                                                                                                                                                                                 | 48.3%                                                                             | 18.3%                                                                             | 48.3%                                                                                                                                                                                                                                                 | 48.3%                                                                             | 33.3%                                                                               | 33.3%                                                                               |                                                                                     | 33.3%                                                                               | 33.3%                                                                               |                                                                                     |
| Yellow Time (s)         | 4.0                                                                               | 4.0                                                                                                                                                                                                                                                   | 4.0                                                                               | 4.0                                                                               | 4.0                                                                                                                                                                                                                                                   | 4.0                                                                               | 3.0                                                                                 | 3.0                                                                                 |                                                                                     | 3.0                                                                                 | 3.0                                                                                 |                                                                                     |
| All-Red Time (s)        | 2.0                                                                               | 2.0                                                                                                                                                                                                                                                   | 2.0                                                                               | 2.0                                                                               | 2.0                                                                                                                                                                                                                                                   | 2.0                                                                               | 2.0                                                                                 | 2.0                                                                                 |                                                                                     | 2.0                                                                                 | 2.0                                                                                 |                                                                                     |
| Lost Time Adjust (s)    | 0.0                                                                               | 0.0                                                                                                                                                                                                                                                   | 0.0                                                                               | 0.0                                                                               | 0.0                                                                                                                                                                                                                                                   | 0.0                                                                               | 0.0                                                                                 | 0.0                                                                                 |                                                                                     | 0.0                                                                                 | 0.0                                                                                 |                                                                                     |
| Total Lost Time (s)     | 6.0                                                                               | 6.0                                                                                                                                                                                                                                                   | 6.0                                                                               | 6.0                                                                               | 6.0                                                                                                                                                                                                                                                   | 6.0                                                                               | 5.0                                                                                 | 5.0                                                                                 |                                                                                     | 5.0                                                                                 | 5.0                                                                                 |                                                                                     |
| Lead/Lag                | Lead                                                                              | Lag                                                                                                                                                                                                                                                   | Lag                                                                               | Lead                                                                              | Lag                                                                                                                                                                                                                                                   | Lag                                                                               |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Lead-Lag Optimize?      | Yes                                                                               | Yes                                                                                                                                                                                                                                                   | Yes                                                                               | Yes                                                                               | Yes                                                                                                                                                                                                                                                   | Yes                                                                               |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Recall Mode             | None                                                                              | C-Max                                                                                                                                                                                                                                                 | C-Max                                                                             | None                                                                              | C-Max                                                                                                                                                                                                                                                 | C-Max                                                                             | Max                                                                                 | Max                                                                                 |                                                                                     | Max                                                                                 | Max                                                                                 |                                                                                     |
| Act Effect Green (s)    | 31.6                                                                              | 29.6                                                                                                                                                                                                                                                  | 29.6                                                                              | 28.0                                                                              | 23.0                                                                                                                                                                                                                                                  | 23.0                                                                              | 15.0                                                                                | 15.0                                                                                | 60.0                                                                                | 15.0                                                                                | 15.0                                                                                |                                                                                     |
| Actuated g/C Ratio      | 0.53                                                                              | 0.49                                                                                                                                                                                                                                                  | 0.49                                                                              | 0.47                                                                              | 0.38                                                                                                                                                                                                                                                  | 0.38                                                                              | 0.25                                                                                | 0.25                                                                                | 1.00                                                                                | 0.25                                                                                | 0.25                                                                                |                                                                                     |
| v/c Ratio               | 0.70                                                                              | 0.76                                                                                                                                                                                                                                                  | 0.14                                                                              | 0.14                                                                              | 1.47                                                                                                                                                                                                                                                  | 0.26                                                                              | 1.73                                                                                | 0.01                                                                                | 0.02                                                                                | 0.38                                                                                | 1.21                                                                                |                                                                                     |
| Control Delay (s/veh)   | 32.3                                                                              | 20.4                                                                                                                                                                                                                                                  | 4.8                                                                               | 7.4                                                                               | 236.6                                                                                                                                                                                                                                                 | 3.4                                                                               | 381.3                                                                               | 17.0                                                                                | 0.0                                                                                 | 22.4                                                                                | 129.6                                                                               |                                                                                     |
| Queue Delay             | 0.0                                                                               | 0.0                                                                                                                                                                                                                                                   | 0.0                                                                               | 0.0                                                                               | 0.0                                                                                                                                                                                                                                                   | 0.0                                                                               | 0.0                                                                                 | 0.0                                                                                 | 0.0                                                                                 | 0.0                                                                                 | 0.0                                                                                 |                                                                                     |
| Total Delay (s/veh)     | 32.3                                                                              | 20.4                                                                                                                                                                                                                                                  | 4.8                                                                               | 7.4                                                                               | 236.6                                                                                                                                                                                                                                                 | 3.4                                                                               | 381.3                                                                               | 17.0                                                                                | 0.0                                                                                 | 22.4                                                                                | 129.6                                                                               |                                                                                     |
| LOS                     | C                                                                                 | C                                                                                                                                                                                                                                                     | A                                                                                 | A                                                                                 | F                                                                                                                                                                                                                                                     | A                                                                                 | F                                                                                   | B                                                                                   | A                                                                                   | C                                                                                   | F                                                                                   |                                                                                     |
| Approach Delay (s/veh)  |                                                                                   | 20.6                                                                                                                                                                                                                                                  |                                                                                   |                                                                                   | 219.6                                                                                                                                                                                                                                                 |                                                                                   |                                                                                     | 338.8                                                                               |                                                                                     |                                                                                     | 111.7                                                                               |                                                                                     |
| Approach LOS            |                                                                                   | C                                                                                                                                                                                                                                                     |                                                                                   |                                                                                   | F                                                                                                                                                                                                                                                     |                                                                                   |                                                                                     | F                                                                                   |                                                                                     |                                                                                     | F                                                                                   |                                                                                     |
| Queue Length 50th (ft)  | 77                                                                                | 269                                                                                                                                                                                                                                                   | 9                                                                                 | 6                                                                                 | ~539                                                                                                                                                                                                                                                  | 0                                                                                 | ~118                                                                                | 1                                                                                   | 0                                                                                   | 39                                                                                  | ~241                                                                                |                                                                                     |
| Queue Length 95th (ft)  | m#138                                                                             | m#495                                                                                                                                                                                                                                                 | m36                                                                               | 16                                                                                | #633                                                                                                                                                                                                                                                  | 33                                                                                | #232                                                                                | 6                                                                                   | 0                                                                                   | 82                                                                                  | #425                                                                                |                                                                                     |
| Internal Link Dist (ft) |                                                                                   | 600                                                                                                                                                                                                                                                   |                                                                                   |                                                                                   | 542                                                                                                                                                                                                                                                   |                                                                                   |                                                                                     | 565                                                                                 |                                                                                     |                                                                                     | 379                                                                                 |                                                                                     |
| Turn Bay Length (ft)    | 530                                                                               |                                                                                                                                                                                                                                                       | 380                                                                               | 330                                                                               |                                                                                                                                                                                                                                                       | 360                                                                               | 125                                                                                 |                                                                                     | 195                                                                                 | 110                                                                                 |                                                                                     |                                                                                     |
| Base Capacity (vph)     | 274                                                                               | 2508                                                                                                                                                                                                                                                  | 854                                                                               | 271                                                                               | 1949                                                                                                                                                                                                                                                  | 722                                                                               | 124                                                                                 | 465                                                                                 | 1583                                                                                | 352                                                                                 | 543                                                                                 |                                                                                     |
| Starvation Cap Reductn  | 0                                                                                 | 0                                                                                                                                                                                                                                                     | 0                                                                                 | 0                                                                                 | 0                                                                                                                                                                                                                                                     | 0                                                                                 | 0                                                                                   | 0                                                                                   | 0                                                                                   | 0                                                                                   | 0                                                                                   |                                                                                     |
| Spillback Cap Reductn   | 0                                                                                 | 0                                                                                                                                                                                                                                                     | 0                                                                                 | 0                                                                                 | 0                                                                                                                                                                                                                                                     | 0                                                                                 | 0                                                                                   | 0                                                                                   | 0                                                                                   | 0                                                                                   | 0                                                                                   |                                                                                     |
| Storage Cap Reductn     | 0                                                                                 | 0                                                                                                                                                                                                                                                     | 0                                                                                 | 0                                                                                 | 0                                                                                                                                                                                                                                                     | 0                                                                                 | 0                                                                                   | 0                                                                                   | 0                                                                                   | 0                                                                                   | 0                                                                                   |                                                                                     |
| Reduced v/c Ratio       | 0.70                                                                              | 0.76                                                                                                                                                                                                                                                  | 0.14                                                                              | 0.14                                                                              | 1.47                                                                                                                                                                                                                                                  | 0.26                                                                              | 1.73                                                                                | 0.01                                                                                | 0.02                                                                                | 0.38                                                                                | 1.21                                                                                |                                                                                     |

Intersection Summary

Cycle Length: 60

Actuated Cycle Length: 60

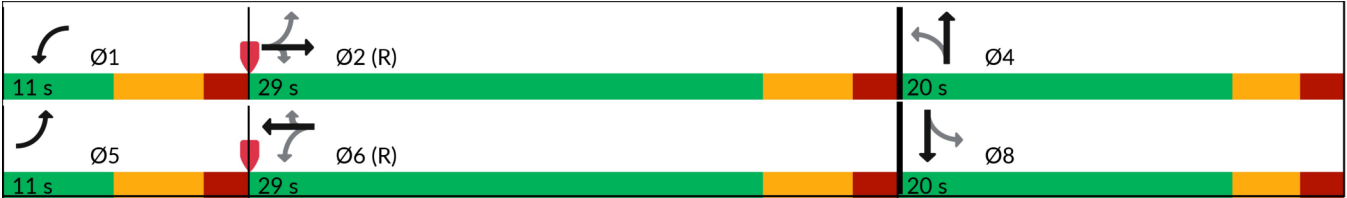
Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green

Natural Cycle: 55

Control Type: Actuated-Coordinated

|                                                                                                             |                        |
|-------------------------------------------------------------------------------------------------------------|------------------------|
| Maximum v/c Ratio: 1.73                                                                                     |                        |
| Intersection Signal Delay (s/veh): 141.1                                                                    | Intersection LOS: F    |
| Intersection Capacity Utilization 127.4%                                                                    | ICU Level of Service H |
| Analysis Period (min) 15                                                                                    |                        |
| ~ Volume exceeds capacity, queue is theoretically infinite.<br>Queue shown is maximum after two cycles.     |                        |
| # 95th percentile volume exceeds capacity, queue may be longer.<br>Queue shown is maximum after two cycles. |                        |
| m Volume for 95th percentile queue is metered by upstream signal.                                           |                        |

Splits and Phases: 3: Golden Sage Road & E Woodmen Road



HCM Unsignalized Intersection Capacity Analysis  
4: Golden Sage Road & Woodmen Frontage Road

Total Traffic Conditions  
AM Peak Traffic Hour - 2045

|                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
|-----------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|
|                                   |  |  |  |  |  |  |
| Movement                          | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | NBL                                                                               | NBR                                                                               |
| Lane Configurations               |  |                                                                                   |                                                                                   |  |  |                                                                                   |
| Traffic Volume (veh/h)            | 5                                                                                 | 244                                                                               | 480                                                                               | 5                                                                                 | 353                                                                               | 5                                                                                 |
| Future Volume (Veh/h)             | 5                                                                                 | 244                                                                               | 480                                                                               | 5                                                                                 | 353                                                                               | 5                                                                                 |
| Sign Control                      | Stop                                                                              |                                                                                   |                                                                                   | Stop                                                                              | Free                                                                              |                                                                                   |
| Grade                             | 0%                                                                                |                                                                                   |                                                                                   | 0%                                                                                | 0%                                                                                |                                                                                   |
| Peak Hour Factor                  | 0.92                                                                              | 0.92                                                                              | 0.92                                                                              | 0.92                                                                              | 0.92                                                                              | 0.92                                                                              |
| Hourly flow rate (vph)            | 5                                                                                 | 265                                                                               | 522                                                                               | 5                                                                                 | 384                                                                               | 5                                                                                 |
| Pedestrians                       |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Lane Width (ft)                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Walking Speed (ft/s)              |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Percent Blockage                  |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Right turn flare (veh)            |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Median type                       |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   | None                                                                              |
| Median storage veh)               |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Upstream signal (ft)              |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   | 459                                                                               |
| pX, platoon unblocked             |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| vC, conflicting volume            | 773                                                                               | 0                                                                                 | 1038                                                                              | 771                                                                               | 0                                                                                 |                                                                                   |
| vC1, stage 1 conf vol             |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| vC2, stage 2 conf vol             |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| vCu, unblocked vol                | 773                                                                               | 0                                                                                 | 1038                                                                              | 771                                                                               | 0                                                                                 |                                                                                   |
| tC, single (s)                    | 6.5                                                                               | 6.2                                                                               | 7.1                                                                               | 6.5                                                                               | 4.1                                                                               |                                                                                   |
| tC, 2 stage (s)                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| tF (s)                            | 4.0                                                                               | 3.3                                                                               | 3.5                                                                               | 4.0                                                                               | 2.2                                                                               |                                                                                   |
| p0 queue free %                   | 98                                                                                | 76                                                                                | 0                                                                                 | 98                                                                                | 76                                                                                |                                                                                   |
| cM capacity (veh/h)               | 252                                                                               | 1085                                                                              | 127                                                                               | 253                                                                               | 1623                                                                              |                                                                                   |
| Direction, Lane #                 | EB 1                                                                              | WB 1                                                                              | NB 1                                                                              |                                                                                   |                                                                                   |                                                                                   |
| Volume Total                      | 270                                                                               | 527                                                                               | 389                                                                               |                                                                                   |                                                                                   |                                                                                   |
| Volume Left                       | 0                                                                                 | 522                                                                               | 384                                                                               |                                                                                   |                                                                                   |                                                                                   |
| Volume Right                      | 265                                                                               | 0                                                                                 | 5                                                                                 |                                                                                   |                                                                                   |                                                                                   |
| cSH                               | 1022                                                                              | 128                                                                               | 1623                                                                              |                                                                                   |                                                                                   |                                                                                   |
| Volume to Capacity                | 0.26                                                                              | 4.12                                                                              | 0.24                                                                              |                                                                                   |                                                                                   |                                                                                   |
| Queue Length 95th (ft)            | 27                                                                                | Err                                                                               | 23                                                                                |                                                                                   |                                                                                   |                                                                                   |
| Control Delay (s/veh)             | 9.8                                                                               | Err                                                                               | 7.8                                                                               |                                                                                   |                                                                                   |                                                                                   |
| Lane LOS                          | A                                                                                 | F                                                                                 | A                                                                                 |                                                                                   |                                                                                   |                                                                                   |
| Approach Delay (s/veh)            | 9.8                                                                               | Err                                                                               | 7.8                                                                               |                                                                                   |                                                                                   |                                                                                   |
| Approach LOS                      | A                                                                                 | F                                                                                 |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Intersection Summary              |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Average Delay                     |                                                                                   |                                                                                   | 4447.9                                                                            |                                                                                   |                                                                                   |                                                                                   |
| Intersection Capacity Utilization |                                                                                   |                                                                                   | 72.1%                                                                             | ICU Level of Service                                                              |                                                                                   | C                                                                                 |
| Analysis Period (min)             |                                                                                   |                                                                                   | 15                                                                                |                                                                                   |                                                                                   |                                                                                   |

| Intersection             |      |      |      |      |      |      |      |      |      |      |      |      |
|--------------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Int Delay, s/veh         | 3.5  |      |      |      |      |      |      |      |      |      |      |      |
| Movement                 | EBL  | EBT  | EBR  | WBL  | WBT  | WBR  | NBL  | NBT  | NBR  | SBL  | SBT  | SBR  |
| Lane Configurations      |      | ↕    |      |      | ↕    |      |      | ↕    |      |      | ↕    |      |
| Traffic Vol, veh/h       | 1    | 7    | 15   | 46   | 4    | 5    | 10   | 46   | 52   | 3    | 51   | 5    |
| Future Vol, veh/h        | 1    | 7    | 15   | 46   | 4    | 5    | 10   | 46   | 52   | 3    | 51   | 5    |
| Conflicting Peds, #/hr   | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Sign Control             | Stop | Stop | Stop | Stop | Stop | Stop | Free | Free | Free | Free | Free | Free |
| RT Channelized           | -    | -    | None | -    | -    | None | -    | -    | None | -    | -    | 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                | 1    | 8    | 16   | 50   | 4    | 5    | 11   | 50   | 57   | 3    | 55   | 5    |

| Major/Minor          | Minor2 |       | Minor1 |       | Major1 |       | Major2 |   |   |       |   |   |
|----------------------|--------|-------|--------|-------|--------|-------|--------|---|---|-------|---|---|
| Conflicting Flow All | 139    | 193   | 58     | 166   | 167    | 78    | 61     | 0 | 0 | 107   | 0 | 0 |
| Stage 1              | 65     | 65    | -      | 100   | 100    | -     | -      | - | - | -     | - | - |
| Stage 2              | 74     | 128   | -      | 66    | 67     | -     | -      | - | - | -     | - | - |
| Critical Hdwy        | 7.12   | 6.52  | 6.22   | 7.12  | 6.52   | 6.22  | 4.12   | - | - | 4.12  | - | - |
| Critical Hdwy Stg 1  | 6.12   | 5.52  | -      | 6.12  | 5.52   | -     | -      | - | - | -     | - | - |
| Critical Hdwy Stg 2  | 6.12   | 5.52  | -      | 6.12  | 5.52   | -     | -      | - | - | -     | - | - |
| Follow-up Hdwy       | 3.518  | 4.018 | 3.318  | 3.518 | 4.018  | 3.318 | 2.218  | - | - | 2.218 | - | - |
| Pot Cap-1 Maneuver   | 832    | 702   | 1008   | 799   | 725    | 982   | 1542   | - | - | 1484  | - | - |
| Stage 1              | 946    | 841   | -      | 906   | 812    | -     | -      | - | - | -     | - | - |
| Stage 2              | 935    | 790   | -      | 945   | 839    | -     | -      | - | - | -     | - | - |
| Platoon blocked, %   |        |       |        |       |        |       |        | - | - |       | - | - |
| Mov Cap-1 Maneuver   | 814    | 695   | 1008   | 770   | 718    | 982   | 1542   | - | - | 1484  | - | - |
| Mov Cap-2 Maneuver   | 814    | 695   | -      | 770   | 718    | -     | -      | - | - | -     | - | - |
| Stage 1              | 944    | 839   | -      | 899   | 806    | -     | -      | - | - | -     | - | - |
| Stage 2              | 918    | 784   | -      | 919   | 837    | -     | -      | - | - | -     | - | - |

| Approach          | EB   |  | WB   |  | NB   |  | SB   |  |
|-------------------|------|--|------|--|------|--|------|--|
| HCM Ctrl Dly, s/v | 9.22 |  | 9.99 |  | 0.68 |  | 0.38 |  |
| HCM LOS           | A    |  | A    |  |      |  |      |  |

| Minor Lane/Major Mvmt | NBL   | NBT | NBR | EBLn1WBLn1 | SBL   | SBT   | SBR |
|-----------------------|-------|-----|-----|------------|-------|-------|-----|
| Capacity (veh/h)      | 151   | -   | -   | 879        | 781   | 90    | -   |
| HCM Lane V/C Ratio    | 0.007 | -   | -   | 0.028      | 0.077 | 0.002 | -   |
| HCM Ctrl Dly (s/v)    | 7.4   | 0   | -   | 9.2        | 10    | 7.4   | 0   |
| HCM Lane LOS          | A     | A   | -   | A          | A     | A     | -   |
| HCM 95th %tile Q(veh) | 0     | -   | -   | 0.1        | 0.2   | 0     | -   |

| Intersection                |          |          |          |          |          |          |
|-----------------------------|----------|----------|----------|----------|----------|----------|
| Intersection Delay, s/veh   | 5.6      |          |          |          |          |          |
| Intersection LOS            | A        |          |          |          |          |          |
| Approach                    | EB       | WB       | NB       | SB       |          |          |
| Entry Lanes                 | 1        | 1        | 2        | 2        |          |          |
| Conflicting Circle Lanes    | 2        | 2        | 2        | 2        |          |          |
| Adj Approach Flow, veh/h    | 286      | 319      | 360      | 250      |          |          |
| Demand Flow Rate, veh/h     | 292      | 325      | 368      | 254      |          |          |
| Vehicles Circulating, veh/h | 512      | 320      | 63       | 358      |          |          |
| Vehicles Exiting, veh/h     | 100      | 111      | 741      | 287      |          |          |
| Ped Vol Crossing Leg, #/h   | 0        | 0        | 0        | 0        |          |          |
| Ped Cap Adj                 | 1.000    | 1.000    | 1.000    | 1.000    |          |          |
| Approach Delay, s/veh       | 7.4      | 6.3      | 4.0      | 4.8      |          |          |
| Approach LOS                | A        | A        | A        | A        |          |          |
| Lane                        | Left     | Left     | Left     | Right    | Left     | Right    |
| Designated Moves            | LTR      | LTR      | LT       | TR       | LT       | TR       |
| Assumed Moves               | LTR      | LTR      | LT       | TR       | LT       | TR       |
| RT Channelized              |          |          |          |          |          |          |
| Lane Util                   | 1.000    | 1.000    | 0.470    | 0.530    | 0.469    | 0.531    |
| Follow-Up Headway, s        | 2.535    | 2.535    | 2.667    | 2.535    | 2.667    | 2.535    |
| Critical Headway, s         | 4.328    | 4.328    | 4.645    | 4.328    | 4.645    | 4.328    |
| A (Intercept)               | 1420     | 1420     | 1350     | 1420     | 1350     | 1420     |
| B (Slope)                   | 8.501e-4 | 8.501e-4 | 9.199e-4 | 8.501e-4 | 9.199e-4 | 8.501e-4 |
| Entry Flow, veh/h           | 292      | 325      | 173      | 195      | 119      | 135      |
| Cap Entry Lane, veh/h       | 919      | 1082     | 1274     | 1346     | 971      | 1047     |
| Entry HV Adj Factor         | 0.979    | 0.981    | 0.978    | 0.979    | 0.986    | 0.980    |
| Flow Entry, veh/h           | 286      | 319      | 169      | 191      | 117      | 132      |
| Cap Entry, veh/h            | 900      | 1062     | 1246     | 1318     | 957      | 1026     |
| V/C Ratio                   | 0.318    | 0.300    | 0.136    | 0.145    | 0.123    | 0.129    |
| Control Delay, s/veh        | 7.4      | 6.3      | 4.0      | 3.9      | 4.9      | 4.7      |
| LOS                         | A        | A        | A        | A        | A        | A        |
| 95th %tile Queue, veh       | 1        | 1        | 0        | 1        | 0        | 0        |

| Intersection                |          |          |          |          |          |          |
|-----------------------------|----------|----------|----------|----------|----------|----------|
| Intersection Delay, s/veh   | 11.2     |          |          |          |          |          |
| Intersection LOS            | B        |          |          |          |          |          |
| Approach                    | EB       | WB       | NB       | SB       |          |          |
| Entry Lanes                 | 1        | 1        | 2        | 2        |          |          |
| Conflicting Circle Lanes    | 2        | 2        | 2        | 2        |          |          |
| Adj Approach Flow, veh/h    | 214      | 696      | 655      | 728      |          |          |
| Demand Flow Rate, veh/h     | 218      | 709      | 668      | 742      |          |          |
| Vehicles Circulating, veh/h | 1361     | 352      | 138      | 693      |          |          |
| Vehicles Exiting, veh/h     | 74       | 454      | 1441     | 368      |          |          |
| Ped Vol Crossing Leg, #/h   | 0        | 0        | 0        | 0        |          |          |
| Ped Cap Adj                 | 1.000    | 1.000    | 1.000    | 1.000    |          |          |
| Approach Delay, s/veh       | 18.2     | 13.7     | 5.5      | 12.0     |          |          |
| Approach LOS                | C        | B        | A        | B        |          |          |
| Lane                        | Left     | Left     | Left     | Right    | Left     | Right    |
| Designated Moves            | LTR      | LTR      | LT       | TR       | LT       | TR       |
| Assumed Moves               | LTR      | LTR      | LT       | R        | LT       | TR       |
| RT Channelized              |          |          |          |          |          |          |
| Lane Util                   | 1.000    | 1.000    | 0.473    | 0.527    | 0.470    | 0.530    |
| Follow-Up Headway, s        | 2.535    | 2.535    | 2.667    | 2.535    | 2.667    | 2.535    |
| Critical Headway, s         | 4.328    | 4.328    | 4.645    | 4.328    | 4.645    | 4.328    |
| A (Intercept)               | 1420     | 1420     | 1350     | 1420     | 1350     | 1420     |
| B (Slope)                   | 8.501e-4 | 8.501e-4 | 9.199e-4 | 8.501e-4 | 9.199e-4 | 8.501e-4 |
| Entry Flow, veh/h           | 218      | 709      | 316      | 352      | 349      | 393      |
| Cap Entry Lane, veh/h       | 447      | 1053     | 1189     | 1263     | 714      | 788      |
| Entry HV Adj Factor         | 0.981    | 0.982    | 0.981    | 0.980    | 0.980    | 0.981    |
| Flow Entry, veh/h           | 214      | 696      | 310      | 345      | 342      | 386      |
| Cap Entry, veh/h            | 438      | 1033     | 1166     | 1238     | 699      | 773      |
| V/C Ratio                   | 0.488    | 0.673    | 0.266    | 0.279    | 0.489    | 0.499    |
| Control Delay, s/veh        | 18.2     | 13.7     | 5.5      | 5.4      | 12.4     | 11.7     |
| LOS                         | C        | B        | A        | A        | B        | B        |
| 95th %tile Queue, veh       | 3        | 5        | 1        | 1        | 3        | 3        |

Timings

8: Banning Lewis Parkway & Golden Jubilee Drive

Total Traffic Conditions

AM Peak Traffic Hour - 2045

|                         |  |  |  |  |  |  |  |  |  |  |  |  |
|-------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Lane Group              | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | WBR                                                                               | NBL                                                                                 | NBT                                                                                 | NBR                                                                                 | SBL                                                                                 | SBT                                                                                 | SBR                                                                                 |
| Lane Configurations     |  |  |  |  |  |  |  |  |  |  |  |  |
| Traffic Volume (vph)    | 116                                                                               | 5                                                                                 | 21                                                                                | 19                                                                                | 5                                                                                 | 109                                                                               | 48                                                                                  | 132                                                                                 | 50                                                                                  | 282                                                                                 | 219                                                                                 | 272                                                                                 |
| Future Volume (vph)     | 116                                                                               | 5                                                                                 | 21                                                                                | 19                                                                                | 5                                                                                 | 109                                                                               | 48                                                                                  | 132                                                                                 | 50                                                                                  | 282                                                                                 | 219                                                                                 | 272                                                                                 |
| Satd. Flow (prot)       | 1770                                                                              | 1863                                                                              | 1583                                                                              | 1770                                                                              | 1863                                                                              | 1583                                                                              | 1770                                                                                | 5085                                                                                | 1583                                                                                | 1770                                                                                | 3539                                                                                | 1583                                                                                |
| Flt Permitted           | 0.489                                                                             |                                                                                   |                                                                                   | 0.754                                                                             |                                                                                   |                                                                                   | 0.604                                                                               |                                                                                     |                                                                                     | 0.472                                                                               |                                                                                     |                                                                                     |
| Satd. Flow (perm)       | 911                                                                               | 1863                                                                              | 1583                                                                              | 1405                                                                              | 1863                                                                              | 1583                                                                              | 1125                                                                                | 5085                                                                                | 1583                                                                                | 879                                                                                 | 3539                                                                                | 1583                                                                                |
| Satd. Flow (RTOR)       |                                                                                   |                                                                                   | 364                                                                               |                                                                                   |                                                                                   | 364                                                                               |                                                                                     |                                                                                     | 345                                                                                 |                                                                                     |                                                                                     | 296                                                                                 |
| Lane Group Flow (vph)   | 126                                                                               | 5                                                                                 | 23                                                                                | 21                                                                                | 5                                                                                 | 118                                                                               | 52                                                                                  | 143                                                                                 | 54                                                                                  | 307                                                                                 | 238                                                                                 | 296                                                                                 |
| Turn Type               | pm+pt                                                                             | NA                                                                                | Perm                                                                              | pm+pt                                                                             | NA                                                                                | Perm                                                                              | pm+pt                                                                               | NA                                                                                  | Perm                                                                                | pm+pt                                                                               | NA                                                                                  | Perm                                                                                |
| Protected Phases        | 7                                                                                 | 4                                                                                 |                                                                                   | 3                                                                                 | 8                                                                                 |                                                                                   | 5                                                                                   | 2                                                                                   |                                                                                     | 1                                                                                   | 6                                                                                   |                                                                                     |
| Permitted Phases        | 4                                                                                 |                                                                                   | 4                                                                                 | 8                                                                                 |                                                                                   | 8                                                                                 | 2                                                                                   |                                                                                     | 2                                                                                   | 6                                                                                   |                                                                                     | 6                                                                                   |
| Detector Phase          | 7                                                                                 | 4                                                                                 | 4                                                                                 | 3                                                                                 | 8                                                                                 | 8                                                                                 | 5                                                                                   | 2                                                                                   | 2                                                                                   | 1                                                                                   | 6                                                                                   | 6                                                                                   |
| Switch Phase            |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Minimum Initial (s)     | 5.0                                                                               | 5.0                                                                               | 5.0                                                                               | 5.0                                                                               | 5.0                                                                               | 5.0                                                                               | 5.0                                                                                 | 5.0                                                                                 | 5.0                                                                                 | 5.0                                                                                 | 5.0                                                                                 | 5.0                                                                                 |
| Minimum Split (s)       | 10.0                                                                              | 10.0                                                                              | 10.0                                                                              | 10.0                                                                              | 10.0                                                                              | 10.0                                                                              | 11.0                                                                                | 11.0                                                                                | 11.0                                                                                | 11.0                                                                                | 11.0                                                                                | 11.0                                                                                |
| Total Split (s)         | 11.0                                                                              | 11.0                                                                              | 11.0                                                                              | 10.0                                                                              | 10.0                                                                              | 10.0                                                                              | 11.0                                                                                | 18.0                                                                                | 18.0                                                                                | 21.0                                                                                | 28.0                                                                                | 28.0                                                                                |
| Total Split (%)         | 18.3%                                                                             | 18.3%                                                                             | 18.3%                                                                             | 16.7%                                                                             | 16.7%                                                                             | 16.7%                                                                             | 18.3%                                                                               | 30.0%                                                                               | 30.0%                                                                               | 35.0%                                                                               | 46.7%                                                                               | 46.7%                                                                               |
| Yellow Time (s)         | 3.0                                                                               | 3.0                                                                               | 3.0                                                                               | 3.0                                                                               | 3.0                                                                               | 3.0                                                                               | 4.0                                                                                 | 4.0                                                                                 | 4.0                                                                                 | 4.0                                                                                 | 4.0                                                                                 | 4.0                                                                                 |
| All-Red Time (s)        | 2.0                                                                               | 2.0                                                                               | 2.0                                                                               | 2.0                                                                               | 2.0                                                                               | 2.0                                                                               | 2.0                                                                                 | 2.0                                                                                 | 2.0                                                                                 | 2.0                                                                                 | 2.0                                                                                 | 2.0                                                                                 |
| Lost Time Adjust (s)    | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               | 0.0                                                                                 | 0.0                                                                                 | 0.0                                                                                 | 0.0                                                                                 | 0.0                                                                                 | 0.0                                                                                 |
| Total Lost Time (s)     | 5.0                                                                               | 5.0                                                                               | 5.0                                                                               | 5.0                                                                               | 5.0                                                                               | 5.0                                                                               | 6.0                                                                                 | 6.0                                                                                 | 6.0                                                                                 | 6.0                                                                                 | 6.0                                                                                 | 6.0                                                                                 |
| Lead/Lag                | Lead                                                                              | Lag                                                                               | Lag                                                                               | Lead                                                                              | Lag                                                                               | Lag                                                                               | Lead                                                                                | Lag                                                                                 | Lag                                                                                 | Lead                                                                                | Lag                                                                                 | Lag                                                                                 |
| Lead-Lag Optimize?      | Yes                                                                               | Yes                                                                               | Yes                                                                               | Yes                                                                               | Yes                                                                               | Yes                                                                               | Yes                                                                                 | Yes                                                                                 | Yes                                                                                 | Yes                                                                                 | Yes                                                                                 | Yes                                                                                 |
| Recall Mode             | None                                                                              | None                                                                              | None                                                                              | None                                                                              | None                                                                              | None                                                                              | None                                                                                | C-Max                                                                               | C-Max                                                                               | None                                                                                | C-Max                                                                               | C-Max                                                                               |
| Act Effct Green (s)     | 13.2                                                                              | 11.9                                                                              | 11.9                                                                              | 9.0                                                                               | 5.1                                                                               | 5.1                                                                               | 25.4                                                                                | 20.3                                                                                | 20.3                                                                                | 37.2                                                                                | 31.8                                                                                | 31.8                                                                                |
| Actuated g/C Ratio      | 0.22                                                                              | 0.20                                                                              | 0.20                                                                              | 0.15                                                                              | 0.09                                                                              | 0.09                                                                              | 0.42                                                                                | 0.34                                                                                | 0.34                                                                                | 0.62                                                                                | 0.53                                                                                | 0.53                                                                                |
| v/c Ratio               | 0.44                                                                              | 0.01                                                                              | 0.04                                                                              | 0.09                                                                              | 0.03                                                                              | 0.25                                                                              | 0.10                                                                                | 0.08                                                                                | 0.07                                                                                | 0.43                                                                                | 0.13                                                                                | 0.30                                                                                |
| Control Delay (s/veh)   | 23.2                                                                              | 21.2                                                                              | 0.1                                                                               | 17.6                                                                              | 25.8                                                                              | 1.3                                                                               | 8.6                                                                                 | 17.8                                                                                | 0.2                                                                                 | 5.5                                                                                 | 6.6                                                                                 | 3.2                                                                                 |
| 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                                                                                 |
| Total Delay (s/veh)     | 23.2                                                                              | 21.2                                                                              | 0.1                                                                               | 17.6                                                                              | 25.8                                                                              | 1.3                                                                               | 8.6                                                                                 | 17.8                                                                                | 0.2                                                                                 | 5.5                                                                                 | 6.6                                                                                 | 3.2                                                                                 |
| LOS                     | C                                                                                 | C                                                                                 | A                                                                                 | B                                                                                 | C                                                                                 | A                                                                                 | A                                                                                   | B                                                                                   | A                                                                                   | A                                                                                   | A                                                                                   | A                                                                                   |
| Approach Delay (s/veh)  |                                                                                   | 19.7                                                                              |                                                                                   |                                                                                   | 4.5                                                                               |                                                                                   |                                                                                     | 12.1                                                                                |                                                                                     |                                                                                     | 5.0                                                                                 |                                                                                     |
| Approach LOS            |                                                                                   | B                                                                                 |                                                                                   |                                                                                   | A                                                                                 |                                                                                   |                                                                                     | B                                                                                   |                                                                                     |                                                                                     | A                                                                                   |                                                                                     |
| Queue Length 50th (ft)  | 36                                                                                | 1                                                                                 | 0                                                                                 | 6                                                                                 | 2                                                                                 | 0                                                                                 | 8                                                                                   | 14                                                                                  | 0                                                                                   | 21                                                                                  | 36                                                                                  | 0                                                                                   |
| Queue Length 95th (ft)  | 74                                                                                | 10                                                                                | 0                                                                                 | 20                                                                                | 10                                                                                | 0                                                                                 | 21                                                                                  | 30                                                                                  | 0                                                                                   | m28                                                                                 | m47                                                                                 | m0                                                                                  |
| Internal Link Dist (ft) |                                                                                   | 872                                                                               |                                                                                   |                                                                                   | 1012                                                                              |                                                                                   |                                                                                     | 5450                                                                                |                                                                                     |                                                                                     | 375                                                                                 |                                                                                     |
| Turn Bay Length (ft)    | 110                                                                               |                                                                                   | 110                                                                               | 110                                                                               |                                                                                   | 110                                                                               | 230                                                                                 |                                                                                     | 230                                                                                 | 230                                                                                 |                                                                                     |                                                                                     |
| Base Capacity (vph)     | 286                                                                               | 372                                                                               | 607                                                                               | 241                                                                               | 158                                                                               | 467                                                                               | 531                                                                                 | 1722                                                                                | 764                                                                                 | 767                                                                                 | 1875                                                                                | 977                                                                                 |
| Starvation Cap Reductn  | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                   | 0                                                                                   | 0                                                                                   | 0                                                                                   | 0                                                                                   | 0                                                                                   |
| Spillback Cap Reductn   | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                   | 0                                                                                   | 0                                                                                   | 0                                                                                   | 0                                                                                   | 0                                                                                   |
| Storage Cap Reductn     | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                   | 0                                                                                   | 0                                                                                   | 0                                                                                   | 0                                                                                   | 0                                                                                   |
| Reduced v/c Ratio       | 0.44                                                                              | 0.01                                                                              | 0.04                                                                              | 0.09                                                                              | 0.03                                                                              | 0.25                                                                              | 0.10                                                                                | 0.08                                                                                | 0.07                                                                                | 0.40                                                                                | 0.13                                                                                | 0.30                                                                                |

Intersection Summary

Cycle Length: 60

Actuated Cycle Length: 60

Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Natural Cycle: 45

Control Type: Actuated-Coordinated

Timings  
 8: Banning Lewis Parkway & Golden Jubilee Drive

Total Traffic Conditions  
 AM Peak Traffic Hour - 2045

Maximum v/c Ratio: 0.44

Intersection Signal Delay (s/veh): 7.9

Intersection LOS: A

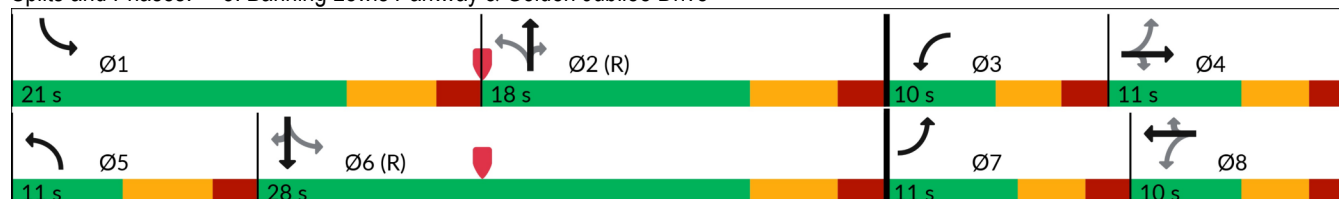
Intersection Capacity Utilization 47.0%

ICU Level of Service A

Analysis Period (min) 15

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 8: Banning Lewis Parkway & Golden Jubilee Drive



# Timings

1: Mohawk Road & E Woodmen Road

Total Traffic Conditions

PM Peak Traffic Hour - 2045

|                                                            |  |                                                                                                                                                                      |  |  |                                                                                                                                                                      |  |                                                                                      |  |  |  |  |  |
|------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Lane Group                                                 | EBL                                                                               | EBT                                                                                                                                                                                                                                                   | EBR                                                                               | WBL                                                                               | WBT                                                                                                                                                                                                                                                   | WBR                                                                               | NBL                                                                                                                                                                     | NBT                                                                                 | NBR                                                                                 | SBL                                                                                 | SBT                                                                                 | SBR                                                                                 |
| Lane Configurations                                        |  |    |  |  |    |  |   |  |  |  |  |  |
| Traffic Volume (vph)                                       | 62                                                                                | 3655                                                                                                                                                                                                                                                  | 358                                                                               | 154                                                                               | 3174                                                                                                                                                                                                                                                  | 25                                                                                | 224                                                                                                                                                                     | 16                                                                                  | 137                                                                                 | 95                                                                                  | 16                                                                                  | 119                                                                                 |
| Future Volume (vph)                                        | 62                                                                                | 3655                                                                                                                                                                                                                                                  | 358                                                                               | 154                                                                               | 3174                                                                                                                                                                                                                                                  | 25                                                                                | 224                                                                                                                                                                     | 16                                                                                  | 137                                                                                 | 95                                                                                  | 16                                                                                  | 119                                                                                 |
| Satd. Flow (prot)                                          | 1770                                                                              | 5085                                                                                                                                                                                                                                                  | 1583                                                                              | 1770                                                                              | 5085                                                                                                                                                                                                                                                  | 1583                                                                              | 3433                                                                                                                                                                    | 1863                                                                                | 1583                                                                                | 1770                                                                                | 1615                                                                                | 0                                                                                   |
| Flt Permitted                                              | 0.038                                                                             |                                                                                                                                                                                                                                                       |                                                                                   | 0.038                                                                             |                                                                                                                                                                                                                                                       |                                                                                   | 0.800                                                                                                                                                                   |                                                                                     |                                                                                     | 0.800                                                                               |                                                                                     |                                                                                     |
| Satd. Flow (perm)                                          | 71                                                                                | 5085                                                                                                                                                                                                                                                  | 1583                                                                              | 71                                                                                | 5085                                                                                                                                                                                                                                                  | 1583                                                                              | 2891                                                                                                                                                                    | 1863                                                                                | 1583                                                                                | 1490                                                                                | 1615                                                                                | 0                                                                                   |
| Satd. Flow (RTOR)                                          |                                                                                   |                                                                                                                                                                                                                                                       | 389                                                                               |                                                                                   |                                                                                                                                                                                                                                                       | 27                                                                                |                                                                                                                                                                         |                                                                                     | 27                                                                                  |                                                                                     | 4                                                                                   |                                                                                     |
| Lane Group Flow (vph)                                      | 67                                                                                | 3973                                                                                                                                                                                                                                                  | 389                                                                               | 167                                                                               | 3450                                                                                                                                                                                                                                                  | 27                                                                                | 243                                                                                                                                                                     | 17                                                                                  | 149                                                                                 | 103                                                                                 | 146                                                                                 | 0                                                                                   |
| Turn Type                                                  | Perm                                                                              | NA                                                                                                                                                                                                                                                    | Perm                                                                              | Perm                                                                              | NA                                                                                                                                                                                                                                                    | Perm                                                                              | Perm                                                                                                                                                                    | NA                                                                                  | Perm                                                                                | Perm                                                                                | NA                                                                                  |                                                                                     |
| Protected Phases                                           |                                                                                   | 2                                                                                                                                                                                                                                                     |                                                                                   |                                                                                   | 6                                                                                                                                                                                                                                                     |                                                                                   |                                                                                                                                                                         | 8                                                                                   |                                                                                     |                                                                                     | 4                                                                                   |                                                                                     |
| Permitted Phases                                           | 2                                                                                 |                                                                                                                                                                                                                                                       | 2                                                                                 | 6                                                                                 |                                                                                                                                                                                                                                                       | 6                                                                                 | 8                                                                                                                                                                       |                                                                                     | 8                                                                                   | 4                                                                                   |                                                                                     |                                                                                     |
| Detector Phase                                             | 2                                                                                 | 2                                                                                                                                                                                                                                                     | 2                                                                                 | 6                                                                                 | 6                                                                                                                                                                                                                                                     | 6                                                                                 | 8                                                                                                                                                                       | 8                                                                                   | 8                                                                                   | 4                                                                                   | 4                                                                                   |                                                                                     |
| Switch Phase                                               |                                                                                   |                                                                                                                                                                                                                                                       |                                                                                   |                                                                                   |                                                                                                                                                                                                                                                       |                                                                                   |                                                                                                                                                                         |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Minimum Initial (s)                                        | 5.0                                                                               | 5.0                                                                                                                                                                                                                                                   | 5.0                                                                               | 5.0                                                                               | 5.0                                                                                                                                                                                                                                                   | 5.0                                                                               | 5.0                                                                                                                                                                     | 5.0                                                                                 | 5.0                                                                                 | 5.0                                                                                 | 5.0                                                                                 |                                                                                     |
| Minimum Split (s)                                          | 11.0                                                                              | 11.0                                                                                                                                                                                                                                                  | 11.0                                                                              | 11.0                                                                              | 11.0                                                                                                                                                                                                                                                  | 11.0                                                                              | 10.0                                                                                                                                                                    | 10.0                                                                                | 10.0                                                                                | 10.0                                                                                | 10.0                                                                                |                                                                                     |
| Total Split (s)                                            | 110.0                                                                             | 110.0                                                                                                                                                                                                                                                 | 110.0                                                                             | 110.0                                                                             | 110.0                                                                                                                                                                                                                                                 | 110.0                                                                             | 10.0                                                                                                                                                                    | 10.0                                                                                | 10.0                                                                                | 10.0                                                                                | 10.0                                                                                |                                                                                     |
| Total Split (%)                                            | 91.7%                                                                             | 91.7%                                                                                                                                                                                                                                                 | 91.7%                                                                             | 91.7%                                                                             | 91.7%                                                                                                                                                                                                                                                 | 91.7%                                                                             | 8.3%                                                                                                                                                                    | 8.3%                                                                                | 8.3%                                                                                | 8.3%                                                                                | 8.3%                                                                                |                                                                                     |
| Yellow Time (s)                                            | 4.0                                                                               | 4.0                                                                                                                                                                                                                                                   | 4.0                                                                               | 4.0                                                                               | 4.0                                                                                                                                                                                                                                                   | 4.0                                                                               | 3.0                                                                                                                                                                     | 3.0                                                                                 | 3.0                                                                                 | 3.0                                                                                 | 3.0                                                                                 |                                                                                     |
| All-Red Time (s)                                           | 2.0                                                                               | 2.0                                                                                                                                                                                                                                                   | 2.0                                                                               | 2.0                                                                               | 2.0                                                                                                                                                                                                                                                   | 2.0                                                                               | 2.0                                                                                                                                                                     | 2.0                                                                                 | 2.0                                                                                 | 2.0                                                                                 | 2.0                                                                                 |                                                                                     |
| Lost Time Adjust (s)                                       | 0.0                                                                               | 0.0                                                                                                                                                                                                                                                   | 0.0                                                                               | 0.0                                                                               | 0.0                                                                                                                                                                                                                                                   | 0.0                                                                               | 0.0                                                                                                                                                                     | 0.0                                                                                 | 0.0                                                                                 | 0.0                                                                                 | 0.0                                                                                 |                                                                                     |
| Total Lost Time (s)                                        | 6.0                                                                               | 6.0                                                                                                                                                                                                                                                   | 6.0                                                                               | 6.0                                                                               | 6.0                                                                                                                                                                                                                                                   | 6.0                                                                               | 5.0                                                                                                                                                                     | 5.0                                                                                 | 5.0                                                                                 | 5.0                                                                                 | 5.0                                                                                 |                                                                                     |
| Lead/Lag                                                   |                                                                                   |                                                                                                                                                                                                                                                       |                                                                                   |                                                                                   |                                                                                                                                                                                                                                                       |                                                                                   |                                                                                                                                                                         |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Lead-Lag Optimize?                                         |                                                                                   |                                                                                                                                                                                                                                                       |                                                                                   |                                                                                   |                                                                                                                                                                                                                                                       |                                                                                   |                                                                                                                                                                         |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Recall Mode                                                | C-Max                                                                             | C-Max                                                                                                                                                                                                                                                 | C-Max                                                                             | Max                                                                               | Max                                                                                                                                                                                                                                                   | Max                                                                               | Max                                                                                                                                                                     | Max                                                                                 | Max                                                                                 | Max                                                                                 | Max                                                                                 |                                                                                     |
| Act Effct Green (s)                                        | 104.0                                                                             | 104.0                                                                                                                                                                                                                                                 | 104.0                                                                             | 104.0                                                                             | 104.0                                                                                                                                                                                                                                                 | 104.0                                                                             | 5.0                                                                                                                                                                     | 5.0                                                                                 | 5.0                                                                                 | 5.0                                                                                 | 5.0                                                                                 |                                                                                     |
| Actuated g/C Ratio                                         | 0.87                                                                              | 0.87                                                                                                                                                                                                                                                  | 0.87                                                                              | 0.87                                                                              | 0.87                                                                                                                                                                                                                                                  | 0.87                                                                              | 0.04                                                                                                                                                                    | 0.04                                                                                | 0.04                                                                                | 0.04                                                                                | 0.04                                                                                |                                                                                     |
| v/c Ratio                                                  | 1.10                                                                              | 0.90                                                                                                                                                                                                                                                  | 0.27                                                                              | 2.74                                                                              | 0.78                                                                                                                                                                                                                                                  | 0.02                                                                              | 2.03                                                                                                                                                                    | 0.22                                                                                | 1.64                                                                                | 1.66                                                                                | 2.06                                                                                |                                                                                     |
| Control Delay (s/veh)                                      | 165.2                                                                             | 8.9                                                                                                                                                                                                                                                   | 0.6                                                                               | 810.3                                                                             | 6.1                                                                                                                                                                                                                                                   | 0.8                                                                               | 518.2                                                                                                                                                                   | 62.6                                                                                | 360.2                                                                               | 393.4                                                                               | 548.2                                                                               |                                                                                     |
| Queue Delay                                                | 0.0                                                                               | 0.0                                                                                                                                                                                                                                                   | 0.0                                                                               | 0.0                                                                               | 0.0                                                                                                                                                                                                                                                   | 0.0                                                                               | 0.0                                                                                                                                                                     | 0.0                                                                                 | 0.0                                                                                 | 0.0                                                                                 | 0.0                                                                                 |                                                                                     |
| Total Delay (s/veh)                                        | 165.2                                                                             | 8.9                                                                                                                                                                                                                                                   | 0.6                                                                               | 810.3                                                                             | 6.1                                                                                                                                                                                                                                                   | 0.8                                                                               | 518.2                                                                                                                                                                   | 62.6                                                                                | 360.2                                                                               | 393.4                                                                               | 548.2                                                                               |                                                                                     |
| LOS                                                        | F                                                                                 | A                                                                                                                                                                                                                                                     | A                                                                                 | F                                                                                 | A                                                                                                                                                                                                                                                     | A                                                                                 | F                                                                                                                                                                       | E                                                                                   | F                                                                                   | F                                                                                   | F                                                                                   |                                                                                     |
| Approach Delay (s/veh)                                     |                                                                                   | 10.5                                                                                                                                                                                                                                                  |                                                                                   |                                                                                   | 42.9                                                                                                                                                                                                                                                  |                                                                                   |                                                                                                                                                                         | 441.7                                                                               |                                                                                     |                                                                                     | 484.2                                                                               |                                                                                     |
| Approach LOS                                               |                                                                                   | B                                                                                                                                                                                                                                                     |                                                                                   |                                                                                   | D                                                                                                                                                                                                                                                     |                                                                                   |                                                                                                                                                                         | F                                                                                   |                                                                                     |                                                                                     | F                                                                                   |                                                                                     |
| Queue Length 50th (ft)                                     | ~58                                                                               | 464                                                                                                                                                                                                                                                   | 0                                                                                 | ~221                                                                              | 197                                                                                                                                                                                                                                                   | 1                                                                                 | ~152                                                                                                                                                                    | 13                                                                                  | ~146                                                                                | ~116                                                                                | ~177                                                                                |                                                                                     |
| Queue Length 95th (ft)                                     | #108                                                                              | 532                                                                                                                                                                                                                                                   | 9                                                                                 | m#221                                                                             | m181                                                                                                                                                                                                                                                  | m1                                                                                | #236                                                                                                                                                                    | 38                                                                                  | #284                                                                                | #232                                                                                | #315                                                                                |                                                                                     |
| Internal Link Dist (ft)                                    |                                                                                   | 2474                                                                                                                                                                                                                                                  |                                                                                   |                                                                                   | 750                                                                                                                                                                                                                                                   |                                                                                   |                                                                                                                                                                         | 6246                                                                                |                                                                                     |                                                                                     | 419                                                                                 |                                                                                     |
| Turn Bay Length (ft)                                       | 300                                                                               |                                                                                                                                                                                                                                                       | 400                                                                               | 315                                                                               |                                                                                                                                                                                                                                                       | 370                                                                               | 150                                                                                                                                                                     |                                                                                     | 150                                                                                 | 50                                                                                  |                                                                                     |                                                                                     |
| Base Capacity (vph)                                        | 61                                                                                | 4407                                                                                                                                                                                                                                                  | 1423                                                                              | 61                                                                                | 4407                                                                                                                                                                                                                                                  | 1375                                                                              | 120                                                                                                                                                                     | 77                                                                                  | 91                                                                                  | 62                                                                                  | 71                                                                                  |                                                                                     |
| Starvation Cap Reductn                                     | 0                                                                                 | 0                                                                                                                                                                                                                                                     | 0                                                                                 | 0                                                                                 | 0                                                                                                                                                                                                                                                     | 0                                                                                 | 0                                                                                                                                                                       | 0                                                                                   | 0                                                                                   | 0                                                                                   | 0                                                                                   |                                                                                     |
| Spillback Cap Reductn                                      | 0                                                                                 | 0                                                                                                                                                                                                                                                     | 0                                                                                 | 0                                                                                 | 0                                                                                                                                                                                                                                                     | 0                                                                                 | 0                                                                                                                                                                       | 0                                                                                   | 0                                                                                   | 0                                                                                   | 0                                                                                   |                                                                                     |
| Storage Cap Reductn                                        | 0                                                                                 | 0                                                                                                                                                                                                                                                     | 0                                                                                 | 0                                                                                 | 0                                                                                                                                                                                                                                                     | 0                                                                                 | 0                                                                                                                                                                       | 0                                                                                   | 0                                                                                   | 0                                                                                   | 0                                                                                   |                                                                                     |
| Reduced v/c Ratio                                          | 1.10                                                                              | 0.90                                                                                                                                                                                                                                                  | 0.27                                                                              | 2.74                                                                              | 0.78                                                                                                                                                                                                                                                  | 0.02                                                                              | 2.03                                                                                                                                                                    | 0.22                                                                                | 1.64                                                                                | 1.66                                                                                | 2.06                                                                                |                                                                                     |
| Intersection Summary                                       |                                                                                   |                                                                                                                                                                                                                                                       |                                                                                   |                                                                                   |                                                                                                                                                                                                                                                       |                                                                                   |                                                                                                                                                                         |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Cycle Length: 120                                          |                                                                                   |                                                                                                                                                                                                                                                       |                                                                                   |                                                                                   |                                                                                                                                                                                                                                                       |                                                                                   |                                                                                                                                                                         |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Actuated Cycle Length: 120                                 |                                                                                   |                                                                                                                                                                                                                                                       |                                                                                   |                                                                                   |                                                                                                                                                                                                                                                       |                                                                                   |                                                                                                                                                                         |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Offset: 0 (0%), Referenced to phase 2:EBTL, Start of Green |                                                                                   |                                                                                                                                                                                                                                                       |                                                                                   |                                                                                   |                                                                                                                                                                                                                                                       |                                                                                   |                                                                                                                                                                         |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Natural Cycle: 70                                          |                                                                                   |                                                                                                                                                                                                                                                       |                                                                                   |                                                                                   |                                                                                                                                                                                                                                                       |                                                                                   |                                                                                                                                                                         |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Control Type: Actuated-Coordinated                         |                                                                                   |                                                                                                                                                                                                                                                       |                                                                                   |                                                                                   |                                                                                                                                                                                                                                                       |                                                                                   |                                                                                                                                                                         |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |

|                                                                   |                        |
|-------------------------------------------------------------------|------------------------|
| Maximum v/c Ratio: 2.74                                           |                        |
| Intersection Signal Delay (s/veh): 57.7                           | Intersection LOS: E    |
| Intersection Capacity Utilization 112.1%                          | ICU Level of Service H |
| Analysis Period (min) 15                                          |                        |
| ~ Volume exceeds capacity, queue is theoretically infinite.       |                        |
| Queue shown is maximum after two cycles.                          |                        |
| # 95th percentile volume exceeds capacity, queue may be longer.   |                        |
| Queue shown is maximum after two cycles.                          |                        |
| m Volume for 95th percentile queue is metered by upstream signal. |                        |

Splits and Phases: 1: Mohawk Road & E Woodmen Road



Timings

2: Banning Lewis Parkway & E Woodmen Road

Total Traffic Conditions

PM Peak Traffic Hour - 2045

|                         |  |  |  |  |  |  |  |  |  |  |  |  |
|-------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Lane Group              | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | WBR                                                                               | NBL                                                                                 | NBT                                                                                 | NBR                                                                                 | SBL                                                                                 | SBT                                                                                 | SBR                                                                                 |
| Lane Configurations     |  |  |  |  |  |  |   |  |  |  |  |  |
| Traffic Volume (vph)    | 539                                                                               | 2323                                                                              | 814                                                                               | 668                                                                               | 2110                                                                              | 294                                                                               | 762                                                                                 | 456                                                                                 | 671                                                                                 | 252                                                                                 | 346                                                                                 | 353                                                                                 |
| Future Volume (vph)     | 539                                                                               | 2323                                                                              | 814                                                                               | 668                                                                               | 2110                                                                              | 294                                                                               | 762                                                                                 | 456                                                                                 | 671                                                                                 | 252                                                                                 | 346                                                                                 | 353                                                                                 |
| Satd. Flow (prot)       | 3433                                                                              | 5085                                                                              | 1583                                                                              | 3433                                                                              | 5085                                                                              | 1583                                                                              | 3433                                                                                | 5085                                                                                | 1583                                                                                | 3433                                                                                | 5085                                                                                | 1583                                                                                |
| Flt Permitted           | 0.950                                                                             |                                                                                   |                                                                                   | 0.950                                                                             |                                                                                   |                                                                                   | 0.950                                                                               |                                                                                     |                                                                                     | 0.950                                                                               |                                                                                     |                                                                                     |
| Satd. Flow (perm)       | 3433                                                                              | 5085                                                                              | 1583                                                                              | 3433                                                                              | 5085                                                                              | 1583                                                                              | 3433                                                                                | 5085                                                                                | 1583                                                                                | 3433                                                                                | 5085                                                                                | 1583                                                                                |
| Satd. Flow (RTOR)       |                                                                                   |                                                                                   | 316                                                                               |                                                                                   |                                                                                   | 245                                                                               |                                                                                     |                                                                                     | 334                                                                                 |                                                                                     |                                                                                     | 280                                                                                 |
| Lane Group Flow (vph)   | 586                                                                               | 2525                                                                              | 885                                                                               | 726                                                                               | 2293                                                                              | 320                                                                               | 828                                                                                 | 496                                                                                 | 729                                                                                 | 274                                                                                 | 376                                                                                 | 384                                                                                 |
| Turn Type               | Prot                                                                              | NA                                                                                | Free                                                                              | Prot                                                                              | NA                                                                                | Free                                                                              | Prot                                                                                | NA                                                                                  | Free                                                                                | Prot                                                                                | NA                                                                                  | Free                                                                                |
| Protected Phases        | 5                                                                                 | 2                                                                                 |                                                                                   | 1                                                                                 | 6                                                                                 |                                                                                   | 7                                                                                   | 4                                                                                   |                                                                                     | 3                                                                                   | 8                                                                                   |                                                                                     |
| Permitted Phases        |                                                                                   |                                                                                   | Free                                                                              |                                                                                   |                                                                                   | Free                                                                              |                                                                                     |                                                                                     | Free                                                                                |                                                                                     |                                                                                     | Free                                                                                |
| Detector Phase          | 5                                                                                 | 2                                                                                 |                                                                                   | 1                                                                                 | 6                                                                                 |                                                                                   | 7                                                                                   | 4                                                                                   |                                                                                     | 3                                                                                   | 8                                                                                   |                                                                                     |
| Switch Phase            |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Minimum Initial (s)     | 5.0                                                                               | 5.0                                                                               |                                                                                   | 5.0                                                                               | 5.0                                                                               |                                                                                   | 5.0                                                                                 | 5.0                                                                                 |                                                                                     | 5.0                                                                                 | 5.0                                                                                 |                                                                                     |
| Minimum Split (s)       | 11.0                                                                              | 11.0                                                                              |                                                                                   | 11.0                                                                              | 11.0                                                                              |                                                                                   | 11.0                                                                                | 11.0                                                                                |                                                                                     | 11.0                                                                                | 11.0                                                                                |                                                                                     |
| Total Split (s)         | 21.0                                                                              | 54.0                                                                              |                                                                                   | 25.0                                                                              | 58.0                                                                              |                                                                                   | 28.0                                                                                | 23.0                                                                                |                                                                                     | 18.0                                                                                | 13.0                                                                                |                                                                                     |
| Total Split (%)         | 17.5%                                                                             | 45.0%                                                                             |                                                                                   | 20.8%                                                                             | 48.3%                                                                             |                                                                                   | 23.3%                                                                               | 19.2%                                                                               |                                                                                     | 15.0%                                                                               | 10.8%                                                                               |                                                                                     |
| Yellow Time (s)         | 4.0                                                                               | 4.0                                                                               |                                                                                   | 4.0                                                                               | 4.0                                                                               |                                                                                   | 4.0                                                                                 | 4.0                                                                                 |                                                                                     | 4.0                                                                                 | 4.0                                                                                 |                                                                                     |
| All-Red Time (s)        | 2.0                                                                               | 2.0                                                                               |                                                                                   | 2.0                                                                               | 2.0                                                                               |                                                                                   | 2.0                                                                                 | 2.0                                                                                 |                                                                                     | 2.0                                                                                 | 2.0                                                                                 |                                                                                     |
| Lost Time Adjust (s)    | 0.0                                                                               | 0.0                                                                               |                                                                                   | 0.0                                                                               | 0.0                                                                               |                                                                                   | 0.0                                                                                 | 0.0                                                                                 |                                                                                     | 0.0                                                                                 | 0.0                                                                                 |                                                                                     |
| Total Lost Time (s)     | 6.0                                                                               | 6.0                                                                               |                                                                                   | 6.0                                                                               | 6.0                                                                               |                                                                                   | 6.0                                                                                 | 6.0                                                                                 |                                                                                     | 6.0                                                                                 | 6.0                                                                                 |                                                                                     |
| Lead/Lag                | Lead                                                                              | Lag                                                                               |                                                                                   | Lead                                                                              | Lag                                                                               |                                                                                   | Lead                                                                                | Lag                                                                                 |                                                                                     | Lead                                                                                | Lag                                                                                 |                                                                                     |
| Lead-Lag Optimize?      | Yes                                                                               | Yes                                                                               |                                                                                   | Yes                                                                               | Yes                                                                               |                                                                                   | Yes                                                                                 | Yes                                                                                 |                                                                                     | Yes                                                                                 | Yes                                                                                 |                                                                                     |
| Recall Mode             | None                                                                              | C-Max                                                                             |                                                                                   | None                                                                              | C-Max                                                                             |                                                                                   | None                                                                                | Max                                                                                 |                                                                                     | None                                                                                | Max                                                                                 |                                                                                     |
| Act Effect Green (s)    | 15.0                                                                              | 48.0                                                                              | 120.0                                                                             | 19.0                                                                              | 52.0                                                                              | 120.0                                                                             | 22.0                                                                                | 17.1                                                                                | 120.0                                                                               | 11.9                                                                                | 7.0                                                                                 | 120.0                                                                               |
| Actuated g/C Ratio      | 0.13                                                                              | 0.40                                                                              | 1.00                                                                              | 0.16                                                                              | 0.43                                                                              | 1.00                                                                              | 0.18                                                                                | 0.14                                                                                | 1.00                                                                                | 0.10                                                                                | 0.06                                                                                | 1.00                                                                                |
| v/c Ratio               | 1.37                                                                              | 1.24                                                                              | 0.56                                                                              | 1.34                                                                              | 1.04                                                                              | 0.20                                                                              | 1.32                                                                                | 0.68                                                                                | 0.46                                                                                | 0.81                                                                                | 1.27                                                                                | 0.24                                                                                |
| Control Delay (s/veh)   | 208.0                                                                             | 147.1                                                                             | 0.5                                                                               | 190.5                                                                             | 49.5                                                                              | 0.0                                                                               | 180.3                                                                               | 40.2                                                                                | 0.6                                                                                 | 71.7                                                                                | 190.6                                                                               | 0.4                                                                                 |
| 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                                                                                 |
| Total Delay (s/veh)     | 208.0                                                                             | 147.1                                                                             | 0.5                                                                               | 190.5                                                                             | 49.5                                                                              | 0.0                                                                               | 180.3                                                                               | 40.2                                                                                | 0.6                                                                                 | 71.7                                                                                | 190.6                                                                               | 0.4                                                                                 |
| LOS                     | F                                                                                 | F                                                                                 | A                                                                                 | F                                                                                 | D                                                                                 | A                                                                                 | F                                                                                   | D                                                                                   | A                                                                                   | E                                                                                   | F                                                                                   | A                                                                                   |
| Approach Delay (s/veh)  |                                                                                   | 123.5                                                                             |                                                                                   |                                                                                   | 75.4                                                                              |                                                                                   |                                                                                     | 82.7                                                                                |                                                                                     |                                                                                     | 88.4                                                                                |                                                                                     |
| Approach LOS            |                                                                                   | F                                                                                 |                                                                                   |                                                                                   | E                                                                                 |                                                                                   |                                                                                     | F                                                                                   |                                                                                     |                                                                                     | F                                                                                   |                                                                                     |
| Queue Length 50th (ft)  | ~311                                                                              | ~890                                                                              | 0                                                                                 | ~383                                                                              | ~711                                                                              | 0                                                                                 | ~424                                                                                | 134                                                                                 | 0                                                                                   | 108                                                                                 | ~134                                                                                | 0                                                                                   |
| Queue Length 95th (ft)  | m#350                                                                             | m#945                                                                             | m0                                                                                | m#321                                                                             | m539                                                                              | m0                                                                                | m#429                                                                               | m132                                                                                | m0                                                                                  | #173                                                                                | #205                                                                                | 0                                                                                   |
| Internal Link Dist (ft) |                                                                                   | 712                                                                               |                                                                                   |                                                                                   | 722                                                                               |                                                                                   |                                                                                     | 667                                                                                 |                                                                                     |                                                                                     | 695                                                                                 |                                                                                     |
| Turn Bay Length (ft)    | 285                                                                               |                                                                                   |                                                                                   | 285                                                                               |                                                                                   | 225                                                                               | 185                                                                                 |                                                                                     | 185                                                                                 | 185                                                                                 |                                                                                     | 185                                                                                 |
| Base Capacity (vph)     | 429                                                                               | 2034                                                                              | 1583                                                                              | 543                                                                               | 2203                                                                              | 1583                                                                              | 629                                                                                 | 726                                                                                 | 1583                                                                                | 343                                                                                 | 296                                                                                 | 1583                                                                                |
| Starvation Cap Reductn  | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                   | 0                                                                                   | 0                                                                                   | 0                                                                                   | 0                                                                                   | 0                                                                                   |
| Spillback Cap Reductn   | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                   | 0                                                                                   | 0                                                                                   | 0                                                                                   | 0                                                                                   | 0                                                                                   |
| Storage Cap Reductn     | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                   | 0                                                                                   | 0                                                                                   | 0                                                                                   | 0                                                                                   | 0                                                                                   |
| Reduced v/c Ratio       | 1.37                                                                              | 1.24                                                                              | 0.56                                                                              | 1.34                                                                              | 1.04                                                                              | 0.20                                                                              | 1.32                                                                                | 0.68                                                                                | 0.46                                                                                | 0.80                                                                                | 1.27                                                                                | 0.24                                                                                |

Intersection Summary

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Green

Natural Cycle: 150

Control Type: Actuated-Coordinated

Timings  
 2: Banning Lewis Parkway & E Woodmen Road

Total Traffic Conditions  
 PM Peak Traffic Hour - 2045

Maximum v/c Ratio: 1.37

Intersection Signal Delay (s/veh): 96.6

Intersection LOS: F

Intersection Capacity Utilization 112.4%

ICU Level of Service H

Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.

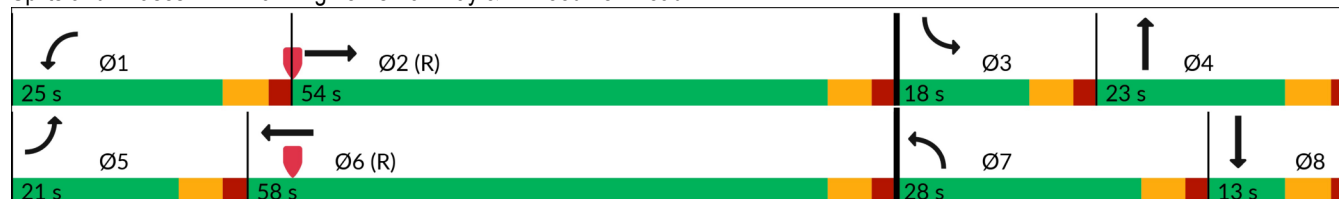
Queue shown is maximum after two cycles.

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

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 2: Banning Lewis Parkway & E Woodmen Road



# Timings

## 3: Golden Sage Road & E Woodmen Road

# Total Traffic Conditions

## PM Peak Traffic Hour - 2045

|                         |  |                                                                                                                                                                      |  |  |                                                                                                                                                                      |  |  |  |  |  |                                                                                      |  |
|-------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Lane Group              | EBL                                                                               | EBT                                                                                                                                                                                                                                                   | EBR                                                                               | WBL                                                                               | WBT                                                                                                                                                                                                                                                   | WBR                                                                               | NBL                                                                                 | NBT                                                                                 | NBR                                                                                 | SBL                                                                                 | SBT                                                                                                                                                                     | SBR                                                                                 |
| Lane Configurations     |  |    |  |  |    |  |  |  |  |  |   |  |
| Traffic Volume (vph)    | 380                                                                               | 2644                                                                                                                                                                                                                                                  | 259                                                                               | 94                                                                                | 2428                                                                                                                                                                                                                                                  | 182                                                                               | 157                                                                                 | 21                                                                                  | 53                                                                                  | 95                                                                                  | 28                                                                                                                                                                      | 399                                                                                 |
| Future Volume (vph)     | 380                                                                               | 2644                                                                                                                                                                                                                                                  | 259                                                                               | 94                                                                                | 2428                                                                                                                                                                                                                                                  | 182                                                                               | 157                                                                                 | 21                                                                                  | 53                                                                                  | 95                                                                                  | 28                                                                                                                                                                      | 399                                                                                 |
| Satd. Flow (prot)       | 1770                                                                              | 5085                                                                                                                                                                                                                                                  | 1583                                                                              | 1770                                                                              | 5085                                                                                                                                                                                                                                                  | 1583                                                                              | 1770                                                                                | 1863                                                                                | 1583                                                                                | 1770                                                                                | 1602                                                                                                                                                                    | 0                                                                                   |
| Flt Permitted           | 0.125                                                                             |                                                                                                                                                                                                                                                       |                                                                                   | 0.138                                                                             |                                                                                                                                                                                                                                                       |                                                                                   | 0.571                                                                               |                                                                                     |                                                                                     | 0.742                                                                               |                                                                                                                                                                         |                                                                                     |
| Satd. Flow (perm)       | 233                                                                               | 5085                                                                                                                                                                                                                                                  | 1583                                                                              | 257                                                                               | 5085                                                                                                                                                                                                                                                  | 1583                                                                              | 1064                                                                                | 1863                                                                                | 1583                                                                                | 1382                                                                                | 1602                                                                                                                                                                    | 0                                                                                   |
| Satd. Flow (RTOR)       |                                                                                   |                                                                                                                                                                                                                                                       | 282                                                                               |                                                                                   |                                                                                                                                                                                                                                                       | 198                                                                               |                                                                                     |                                                                                     | 255                                                                                 |                                                                                     | 161                                                                                                                                                                     |                                                                                     |
| Lane Group Flow (vph)   | 413                                                                               | 2874                                                                                                                                                                                                                                                  | 282                                                                               | 102                                                                               | 2639                                                                                                                                                                                                                                                  | 198                                                                               | 171                                                                                 | 23                                                                                  | 58                                                                                  | 103                                                                                 | 464                                                                                                                                                                     | 0                                                                                   |
| Turn Type               | pm+pt                                                                             | NA                                                                                                                                                                                                                                                    | Perm                                                                              | pm+pt                                                                             | NA                                                                                                                                                                                                                                                    | Perm                                                                              | Perm                                                                                | NA                                                                                  | Free                                                                                | Perm                                                                                | NA                                                                                                                                                                      |                                                                                     |
| Protected Phases        | 5                                                                                 | 2                                                                                                                                                                                                                                                     |                                                                                   | 1                                                                                 | 6                                                                                                                                                                                                                                                     |                                                                                   |                                                                                     | 4                                                                                   |                                                                                     |                                                                                     | 8                                                                                                                                                                       |                                                                                     |
| Permitted Phases        | 2                                                                                 |                                                                                                                                                                                                                                                       | 2                                                                                 | 6                                                                                 |                                                                                                                                                                                                                                                       | 6                                                                                 | 4                                                                                   |                                                                                     | Free                                                                                | 8                                                                                   |                                                                                                                                                                         |                                                                                     |
| Detector Phase          | 5                                                                                 | 2                                                                                                                                                                                                                                                     | 2                                                                                 | 1                                                                                 | 6                                                                                                                                                                                                                                                     | 6                                                                                 | 4                                                                                   | 4                                                                                   |                                                                                     | 8                                                                                   | 8                                                                                                                                                                       |                                                                                     |
| Switch Phase            |                                                                                   |                                                                                                                                                                                                                                                       |                                                                                   |                                                                                   |                                                                                                                                                                                                                                                       |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                                                                                                         |                                                                                     |
| Minimum Initial (s)     | 5.0                                                                               | 5.0                                                                                                                                                                                                                                                   | 5.0                                                                               | 5.0                                                                               | 5.0                                                                                                                                                                                                                                                   | 5.0                                                                               | 5.0                                                                                 | 5.0                                                                                 |                                                                                     | 5.0                                                                                 | 5.0                                                                                                                                                                     |                                                                                     |
| Minimum Split (s)       | 11.0                                                                              | 11.0                                                                                                                                                                                                                                                  | 11.0                                                                              | 11.0                                                                              | 11.0                                                                                                                                                                                                                                                  | 11.0                                                                              | 10.0                                                                                | 10.0                                                                                |                                                                                     | 10.0                                                                                | 10.0                                                                                                                                                                    |                                                                                     |
| Total Split (s)         | 13.0                                                                              | 37.0                                                                                                                                                                                                                                                  | 37.0                                                                              | 11.0                                                                              | 35.0                                                                                                                                                                                                                                                  | 35.0                                                                              | 12.0                                                                                | 12.0                                                                                |                                                                                     | 12.0                                                                                | 12.0                                                                                                                                                                    |                                                                                     |
| Total Split (%)         | 21.7%                                                                             | 61.7%                                                                                                                                                                                                                                                 | 61.7%                                                                             | 18.3%                                                                             | 58.3%                                                                                                                                                                                                                                                 | 58.3%                                                                             | 20.0%                                                                               | 20.0%                                                                               |                                                                                     | 20.0%                                                                               | 20.0%                                                                                                                                                                   |                                                                                     |
| Yellow Time (s)         | 4.0                                                                               | 4.0                                                                                                                                                                                                                                                   | 4.0                                                                               | 4.0                                                                               | 4.0                                                                                                                                                                                                                                                   | 4.0                                                                               | 3.0                                                                                 | 3.0                                                                                 |                                                                                     | 3.0                                                                                 | 3.0                                                                                                                                                                     |                                                                                     |
| All-Red Time (s)        | 2.0                                                                               | 2.0                                                                                                                                                                                                                                                   | 2.0                                                                               | 2.0                                                                               | 2.0                                                                                                                                                                                                                                                   | 2.0                                                                               | 2.0                                                                                 | 2.0                                                                                 |                                                                                     | 2.0                                                                                 | 2.0                                                                                                                                                                     |                                                                                     |
| Lost Time Adjust (s)    | 0.0                                                                               | 0.0                                                                                                                                                                                                                                                   | 0.0                                                                               | 0.0                                                                               | 0.0                                                                                                                                                                                                                                                   | 0.0                                                                               | 0.0                                                                                 | 0.0                                                                                 |                                                                                     | 0.0                                                                                 | 0.0                                                                                                                                                                     |                                                                                     |
| Total Lost Time (s)     | 6.0                                                                               | 6.0                                                                                                                                                                                                                                                   | 6.0                                                                               | 6.0                                                                               | 6.0                                                                                                                                                                                                                                                   | 6.0                                                                               | 5.0                                                                                 | 5.0                                                                                 |                                                                                     | 5.0                                                                                 | 5.0                                                                                                                                                                     |                                                                                     |
| Lead/Lag                | Lead                                                                              | Lag                                                                                                                                                                                                                                                   | Lag                                                                               | Lead                                                                              | Lag                                                                                                                                                                                                                                                   | Lag                                                                               |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                                                                                                         |                                                                                     |
| Lead-Lag Optimize?      | Yes                                                                               | Yes                                                                                                                                                                                                                                                   | Yes                                                                               | Yes                                                                               | Yes                                                                                                                                                                                                                                                   | Yes                                                                               |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                                                                                                         |                                                                                     |
| Recall Mode             | None                                                                              | C-Max                                                                                                                                                                                                                                                 | C-Max                                                                             | None                                                                              | C-Max                                                                                                                                                                                                                                                 | C-Max                                                                             | Max                                                                                 | Max                                                                                 |                                                                                     | Max                                                                                 | Max                                                                                                                                                                     |                                                                                     |
| Act Effect Green (s)    | 38.8                                                                              | 33.2                                                                                                                                                                                                                                                  | 33.2                                                                              | 34.0                                                                              | 29.0                                                                                                                                                                                                                                                  | 29.0                                                                              | 7.0                                                                                 | 7.0                                                                                 | 60.0                                                                                | 7.0                                                                                 | 7.0                                                                                                                                                                     |                                                                                     |
| Actuated g/C Ratio      | 0.65                                                                              | 0.55                                                                                                                                                                                                                                                  | 0.55                                                                              | 0.57                                                                              | 0.48                                                                                                                                                                                                                                                  | 0.48                                                                              | 0.12                                                                                | 0.12                                                                                | 1.00                                                                                | 0.12                                                                                | 0.12                                                                                                                                                                    |                                                                                     |
| v/c Ratio               | 1.26                                                                              | 1.02                                                                                                                                                                                                                                                  | 0.28                                                                              | 0.38                                                                              | 1.07                                                                                                                                                                                                                                                  | 0.23                                                                              | 1.38                                                                                | 0.11                                                                                | 0.04                                                                                | 0.64                                                                                | 1.41                                                                                                                                                                    |                                                                                     |
| Control Delay (s/veh)   | 146.6                                                                             | 37.4                                                                                                                                                                                                                                                  | 4.9                                                                               | 8.5                                                                               | 59.9                                                                                                                                                                                                                                                  | 2.4                                                                               | 241.2                                                                               | 25.0                                                                                | 0.0                                                                                 | 46.5                                                                                | 221.8                                                                                                                                                                   |                                                                                     |
| Queue Delay             | 0.0                                                                               | 0.0                                                                                                                                                                                                                                                   | 0.0                                                                               | 0.0                                                                               | 0.0                                                                                                                                                                                                                                                   | 0.0                                                                               | 0.0                                                                                 | 0.0                                                                                 | 0.0                                                                                 | 0.0                                                                                 | 0.0                                                                                                                                                                     |                                                                                     |
| Total Delay (s/veh)     | 146.6                                                                             | 37.4                                                                                                                                                                                                                                                  | 4.9                                                                               | 8.5                                                                               | 59.9                                                                                                                                                                                                                                                  | 2.4                                                                               | 241.2                                                                               | 25.0                                                                                | 0.0                                                                                 | 46.5                                                                                | 221.8                                                                                                                                                                   |                                                                                     |
| LOS                     | F                                                                                 | D                                                                                                                                                                                                                                                     | A                                                                                 | A                                                                                 | E                                                                                                                                                                                                                                                     | A                                                                                 | F                                                                                   | C                                                                                   | A                                                                                   | D                                                                                   | F                                                                                                                                                                       |                                                                                     |
| Approach Delay (s/veh)  |                                                                                   | 47.4                                                                                                                                                                                                                                                  |                                                                                   |                                                                                   | 54.2                                                                                                                                                                                                                                                  |                                                                                   |                                                                                     | 166.0                                                                               |                                                                                     |                                                                                     | 190.0                                                                                                                                                                   |                                                                                     |
| Approach LOS            |                                                                                   | D                                                                                                                                                                                                                                                     |                                                                                   |                                                                                   | D                                                                                                                                                                                                                                                     |                                                                                   |                                                                                     | F                                                                                   |                                                                                     |                                                                                     | F                                                                                                                                                                       |                                                                                     |
| Queue Length 50th (ft)  | ~206                                                                              | ~695                                                                                                                                                                                                                                                  | 60                                                                                | 9                                                                                 | ~402                                                                                                                                                                                                                                                  | 0                                                                                 | ~85                                                                                 | 8                                                                                   | 0                                                                                   | 36                                                                                  | ~178                                                                                                                                                                    |                                                                                     |
| Queue Length 95th (ft)  | m#272                                                                             | m515                                                                                                                                                                                                                                                  | m55                                                                               | 21                                                                                | #495                                                                                                                                                                                                                                                  | 27                                                                                | #188                                                                                | 26                                                                                  | 0                                                                                   | #100                                                                                | #339                                                                                                                                                                    |                                                                                     |
| Internal Link Dist (ft) |                                                                                   | 600                                                                                                                                                                                                                                                   |                                                                                   |                                                                                   | 542                                                                                                                                                                                                                                                   |                                                                                   |                                                                                     | 565                                                                                 |                                                                                     |                                                                                     | 379                                                                                                                                                                     |                                                                                     |
| Turn Bay Length (ft)    | 530                                                                               |                                                                                                                                                                                                                                                       | 380                                                                               | 330                                                                               |                                                                                                                                                                                                                                                       | 360                                                                               | 125                                                                                 |                                                                                     | 195                                                                                 | 110                                                                                 |                                                                                                                                                                         |                                                                                     |
| Base Capacity (vph)     | 329                                                                               | 2813                                                                                                                                                                                                                                                  | 1002                                                                              | 271                                                                               | 2457                                                                                                                                                                                                                                                  | 867                                                                               | 124                                                                                 | 217                                                                                 | 1583                                                                                | 161                                                                                 | 329                                                                                                                                                                     |                                                                                     |
| Starvation Cap Reductn  | 0                                                                                 | 0                                                                                                                                                                                                                                                     | 0                                                                                 | 0                                                                                 | 0                                                                                                                                                                                                                                                     | 0                                                                                 | 0                                                                                   | 0                                                                                   | 0                                                                                   | 0                                                                                   | 0                                                                                                                                                                       |                                                                                     |
| Spillback Cap Reductn   | 0                                                                                 | 0                                                                                                                                                                                                                                                     | 0                                                                                 | 0                                                                                 | 0                                                                                                                                                                                                                                                     | 0                                                                                 | 0                                                                                   | 0                                                                                   | 0                                                                                   | 0                                                                                   | 0                                                                                                                                                                       |                                                                                     |
| Storage Cap Reductn     | 0                                                                                 | 0                                                                                                                                                                                                                                                     | 0                                                                                 | 0                                                                                 | 0                                                                                                                                                                                                                                                     | 0                                                                                 | 0                                                                                   | 0                                                                                   | 0                                                                                   | 0                                                                                   | 0                                                                                                                                                                       |                                                                                     |
| Reduced v/c Ratio       | 1.26                                                                              | 1.02                                                                                                                                                                                                                                                  | 0.28                                                                              | 0.38                                                                              | 1.07                                                                                                                                                                                                                                                  | 0.23                                                                              | 1.38                                                                                | 0.11                                                                                | 0.04                                                                                | 0.64                                                                                | 1.41                                                                                                                                                                    |                                                                                     |

### Intersection Summary

Cycle Length: 60

Actuated Cycle Length: 60

Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green

Natural Cycle: 60

Control Type: Actuated-Coordinated

## Timings

### 3: Golden Sage Road & E Woodmen Road

Total Traffic Conditions  
PM Peak Traffic Hour - 2045

Maximum v/c Ratio: 1.41

Intersection Signal Delay (s/veh): 65.3

Intersection LOS: E

Intersection Capacity Utilization 121.1%

ICU Level of Service H

Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

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

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 3: Golden Sage Road & E Woodmen Road



HCM Unsignalized Intersection Capacity Analysis  
4: Golden Sage Road & Woodmen Frontage Road

Total Traffic Conditions  
PM Peak Traffic Hour - 2045

|                                   |  |  |  |  |  |  |
|-----------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|
| Movement                          | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | NBL                                                                               | NBR                                                                               |
| Lane Configurations               |  |                                                                                   |                                                                                   |  |  |                                                                                   |
| Traffic Volume (veh/h)            | 5                                                                                 | 174                                                                               | 364                                                                               | 5                                                                                 | 624                                                                               | 1                                                                                 |
| Future Volume (Veh/h)             | 5                                                                                 | 174                                                                               | 364                                                                               | 5                                                                                 | 624                                                                               | 1                                                                                 |
| Sign Control                      | Stop                                                                              |                                                                                   |                                                                                   | Stop                                                                              | Free                                                                              |                                                                                   |
| Grade                             | 0%                                                                                |                                                                                   |                                                                                   | 0%                                                                                | 0%                                                                                |                                                                                   |
| Peak Hour Factor                  | 0.92                                                                              | 0.92                                                                              | 0.92                                                                              | 0.92                                                                              | 0.92                                                                              | 0.92                                                                              |
| Hourly flow rate (vph)            | 5                                                                                 | 189                                                                               | 396                                                                               | 5                                                                                 | 678                                                                               | 1                                                                                 |
| Pedestrians                       |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Lane Width (ft)                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Walking Speed (ft/s)              |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Percent Blockage                  |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Right turn flare (veh)            |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Median type                       |                                                                                   |                                                                                   |                                                                                   |                                                                                   | None                                                                              |                                                                                   |
| Median storage (veh)              |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Upstream signal (ft)              |                                                                                   |                                                                                   |                                                                                   |                                                                                   | 459                                                                               |                                                                                   |
| pX, platoon unblocked             |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| vC, conflicting volume            | 1357                                                                              | 0                                                                                 | 1548                                                                              | 1357                                                                              | 0                                                                                 |                                                                                   |
| vC1, stage 1 conf vol             |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| vC2, stage 2 conf vol             |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| vCu, unblocked vol                | 1357                                                                              | 0                                                                                 | 1548                                                                              | 1357                                                                              | 0                                                                                 |                                                                                   |
| tC, single (s)                    | 6.5                                                                               | 6.2                                                                               | 7.1                                                                               | 6.5                                                                               | 4.1                                                                               |                                                                                   |
| tC, 2 stage (s)                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| tF (s)                            | 4.0                                                                               | 3.3                                                                               | 3.5                                                                               | 4.0                                                                               | 2.2                                                                               |                                                                                   |
| p0 queue free %                   | 94                                                                                | 83                                                                                | 0                                                                                 | 94                                                                                | 58                                                                                |                                                                                   |
| cM capacity (veh/h)               | 87                                                                                | 1085                                                                              | 50                                                                                | 87                                                                                | 1623                                                                              |                                                                                   |
| Direction, Lane #                 | EB 1                                                                              | WB 1                                                                              | NB 1                                                                              |                                                                                   |                                                                                   |                                                                                   |
| Volume Total                      | 194                                                                               | 401                                                                               | 679                                                                               |                                                                                   |                                                                                   |                                                                                   |
| Volume Left                       | 0                                                                                 | 396                                                                               | 678                                                                               |                                                                                   |                                                                                   |                                                                                   |
| Volume Right                      | 189                                                                               | 0                                                                                 | 1                                                                                 |                                                                                   |                                                                                   |                                                                                   |
| cSH                               | 837                                                                               | 50                                                                                | 1623                                                                              |                                                                                   |                                                                                   |                                                                                   |
| Volume to Capacity                | 0.23                                                                              | 8.04                                                                              | 0.42                                                                              |                                                                                   |                                                                                   |                                                                                   |
| Queue Length 95th (ft)            | 22                                                                                | Err                                                                               | 53                                                                                |                                                                                   |                                                                                   |                                                                                   |
| Control Delay (s/veh)             | 10.6                                                                              | Err                                                                               | 8.8                                                                               |                                                                                   |                                                                                   |                                                                                   |
| Lane LOS                          | B                                                                                 | F                                                                                 | A                                                                                 |                                                                                   |                                                                                   |                                                                                   |
| Approach Delay (s/veh)            | 10.6                                                                              | Err                                                                               | 8.8                                                                               |                                                                                   |                                                                                   |                                                                                   |
| Approach LOS                      | B                                                                                 | F                                                                                 |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Intersection Summary              |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Average Delay                     |                                                                                   | 3153.6                                                                            |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Intersection Capacity Utilization |                                                                                   | 76.1%                                                                             |                                                                                   | ICU Level of Service                                                              |                                                                                   | D                                                                                 |
| Analysis Period (min)             |                                                                                   | 15                                                                                |                                                                                   |                                                                                   |                                                                                   |                                                                                   |

| Intersection             |        |                                                                                   |        |       |                                                                                   |       |        |                                                                                   |      |       |                                                                                     |      |
|--------------------------|--------|-----------------------------------------------------------------------------------|--------|-------|-----------------------------------------------------------------------------------|-------|--------|-----------------------------------------------------------------------------------|------|-------|-------------------------------------------------------------------------------------|------|
| Int Delay, s/veh         | 4.4    |                                                                                   |        |       |                                                                                   |       |        |                                                                                   |      |       |                                                                                     |      |
| Movement                 | EBL    | EBT                                                                               | EBR    | WBL   | WBT                                                                               | WBR   | NBL    | NBT                                                                               | NBR  | SBL   | SBT                                                                                 | SBR  |
| Lane Configurations      |        |  |        |       |  |       |        |  |      |       |  |      |
| Traffic Vol, veh/h       | 6      | 6                                                                                 | 12     | 41    | 9                                                                                 | 5     | 10     | 28                                                                                | 38   | 1     | 27                                                                                  | 5    |
| Future Vol, veh/h        | 6      | 6                                                                                 | 12     | 41    | 9                                                                                 | 5     | 10     | 28                                                                                | 38   | 1     | 27                                                                                  | 5    |
| Conflicting Peds, #/hr   | 0      | 0                                                                                 | 0      | 0     | 0                                                                                 | 0     | 0      | 0                                                                                 | 0    | 0     | 0                                                                                   | 0    |
| Sign Control             | Stop   | Stop                                                                              | Stop   | Stop  | Stop                                                                              | Stop  | Free   | Free                                                                              | Free | Free  | Free                                                                                | Free |
| RT Channelized           | -      | -                                                                                 | None   | -     | -                                                                                 | None  | -      | -                                                                                 | None | -     | -                                                                                   | 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                | 7      | 7                                                                                 | 13     | 45    | 10                                                                                | 5     | 11     | 30                                                                                | 41   | 1     | 29                                                                                  | 5    |
|                          |        |                                                                                   |        |       |                                                                                   |       |        |                                                                                   |      |       |                                                                                     |      |
| Major/Minor              | Minor2 |                                                                                   | Minor1 |       | Major1                                                                            |       | Major2 |                                                                                   |      |       |                                                                                     |      |
| Conflicting Flow All     | 91     | 128                                                                               | 32     | 108   | 110                                                                               | 51    | 35     | 0                                                                                 | 0    | 72    | 0                                                                                   | 0    |
| Stage 1                  | 34     | 34                                                                                | -      | 73    | 73                                                                                | -     | -      | -                                                                                 | -    | -     | -                                                                                   | -    |
| Stage 2                  | 57     | 93                                                                                | -      | 35    | 37                                                                                | -     | -      | -                                                                                 | -    | -     | -                                                                                   | -    |
| Critical Hdwy            | 7.12   | 6.52                                                                              | 6.22   | 7.12  | 6.52                                                                              | 6.22  | 4.12   | -                                                                                 | -    | 4.12  | -                                                                                   | -    |
| Critical Hdwy Stg 1      | 6.12   | 5.52                                                                              | -      | 6.12  | 5.52                                                                              | -     | -      | -                                                                                 | -    | -     | -                                                                                   | -    |
| Critical Hdwy Stg 2      | 6.12   | 5.52                                                                              | -      | 6.12  | 5.52                                                                              | -     | -      | -                                                                                 | -    | -     | -                                                                                   | -    |
| Follow-up Hdwy           | 3.518  | 4.018                                                                             | 3.318  | 3.518 | 4.018                                                                             | 3.318 | 2.218  | -                                                                                 | -    | 2.218 | -                                                                                   | -    |
| Pot Cap-1 Maneuver       | 893    | 763                                                                               | 1042   | 871   | 780                                                                               | 1017  | 1577   | -                                                                                 | -    | 1528  | -                                                                                   | -    |
| Stage 1                  | 982    | 866                                                                               | -      | 937   | 834                                                                               | -     | -      | -                                                                                 | -    | -     | -                                                                                   | -    |
| Stage 2                  | 955    | 818                                                                               | -      | 981   | 864                                                                               | -     | -      | -                                                                                 | -    | -     | -                                                                                   | -    |
| Platoon blocked, %       |        |                                                                                   |        |       |                                                                                   |       |        | -                                                                                 | -    |       | -                                                                                   | -    |
| Mov Cap-1 Maneuver       | 870    | 757                                                                               | 1042   | 846   | 774                                                                               | 1017  | 1577   | -                                                                                 | -    | 1528  | -                                                                                   | -    |
| Mov Cap-2 Maneuver       | 870    | 757                                                                               | -      | 846   | 774                                                                               | -     | -      | -                                                                                 | -    | -     | -                                                                                   | -    |
| Stage 1                  | 981    | 866                                                                               | -      | 930   | 828                                                                               | -     | -      | -                                                                                 | -    | -     | -                                                                                   | -    |
| Stage 2                  | 932    | 812                                                                               | -      | 961   | 864                                                                               | -     | -      | -                                                                                 | -    | -     | -                                                                                   | -    |
|                          |        |                                                                                   |        |       |                                                                                   |       |        |                                                                                   |      |       |                                                                                     |      |
|                          |        |                                                                                   |        |       |                                                                                   |       |        |                                                                                   |      |       |                                                                                     |      |
| Approach                 | EB     |                                                                                   | WB     |       | NB                                                                                |       | SB     |                                                                                   |      |       |                                                                                     |      |
| HCM Ctrl Dly, s/v        | 9.07   |                                                                                   | 9.58   |       | 0.96                                                                              |       | 0.22   |                                                                                   |      |       |                                                                                     |      |
| HCM LOS                  | A      |                                                                                   | A      |       |                                                                                   |       |        |                                                                                   |      |       |                                                                                     |      |
|                          |        |                                                                                   |        |       |                                                                                   |       |        |                                                                                   |      |       |                                                                                     |      |
| Minor Lane/Major Mvmt    | NBL    | NBT                                                                               | NBR    | EBLn1 | WBLn1                                                                             | SBL   | SBT    | SBR                                                                               |      |       |                                                                                     |      |
| Capacity (veh/h)         | 212    | -                                                                                 | -      | 911   | 846                                                                               | 53    | -      | -                                                                                 |      |       |                                                                                     |      |
| HCM Lane V/C Ratio       | 0.007  | -                                                                                 | -      | 0.029 | 0.071                                                                             | 0.001 | -      | -                                                                                 |      |       |                                                                                     |      |
| HCM Ctrl Dly (s/v)       | 7.3    | 0                                                                                 | -      | 9.1   | 9.6                                                                               | 7.4   | 0      | -                                                                                 |      |       |                                                                                     |      |
| HCM Lane LOS             | A      | A                                                                                 | -      | A     | A                                                                                 | A     | A      | -                                                                                 |      |       |                                                                                     |      |
| HCM 95th %tile Q(veh)    | 0      | -                                                                                 | -      | 0.1   | 0.2                                                                               | 0     | -      | -                                                                                 |      |       |                                                                                     |      |

| Intersection                |          |          |          |          |          |          |
|-----------------------------|----------|----------|----------|----------|----------|----------|
| Intersection Delay, s/veh   | 6.7      |          |          |          |          |          |
| Intersection LOS            | A        |          |          |          |          |          |
| Approach                    | EB       | WB       | NB       | SB       |          |          |
| Entry Lanes                 | 1        | 1        | 2        | 2        |          |          |
| Conflicting Circle Lanes    | 2        | 2        | 2        | 2        |          |          |
| Adj Approach Flow, veh/h    | 192      | 213      | 946      | 484      |          |          |
| Demand Flow Rate, veh/h     | 196      | 218      | 965      | 494      |          |          |
| Vehicles Circulating, veh/h | 626      | 699      | 86       | 457      |          |          |
| Vehicles Exiting, veh/h     | 325      | 352      | 736      | 460      |          |          |
| Ped Vol Crossing Leg, #/h   | 0        | 0        | 0        | 0        |          |          |
| Ped Cap Adj                 | 1.000    | 1.000    | 1.000    | 1.000    |          |          |
| Approach Delay, s/veh       | 6.9      | 7.9      | 6.5      | 6.7      |          |          |
| Approach LOS                | A        | A        | A        | A        |          |          |
| Lane                        | Left     | Left     | Left     | Right    | Left     | Right    |
| Designated Moves            | LTR      | LTR      | LT       | TR       | LT       | TR       |
| Assumed Moves               | LTR      | LTR      | LT       | TR       | LT       | TR       |
| RT Channelized              |          |          |          |          |          |          |
| Lane Util                   | 1.000    | 1.000    | 0.470    | 0.530    | 0.470    | 0.530    |
| Follow-Up Headway, s        | 2.535    | 2.535    | 2.667    | 2.535    | 2.667    | 2.535    |
| Critical Headway, s         | 4.328    | 4.328    | 4.645    | 4.328    | 4.645    | 4.328    |
| A (Intercept)               | 1420     | 1420     | 1350     | 1420     | 1350     | 1420     |
| B (Slope)                   | 8.501e-4 | 8.501e-4 | 9.199e-4 | 8.501e-4 | 9.199e-4 | 8.501e-4 |
| Entry Flow, veh/h           | 196      | 218      | 454      | 511      | 232      | 262      |
| Cap Entry Lane, veh/h       | 834      | 784      | 1247     | 1320     | 887      | 963      |
| Entry HV Adj Factor         | 0.979    | 0.977    | 0.980    | 0.981    | 0.981    | 0.980    |
| Flow Entry, veh/h           | 192      | 213      | 445      | 501      | 228      | 257      |
| Cap Entry, veh/h            | 817      | 766      | 1222     | 1295     | 870      | 943      |
| V/C Ratio                   | 0.235    | 0.278    | 0.364    | 0.387    | 0.262    | 0.272    |
| Control Delay, s/veh        | 6.9      | 7.9      | 6.4      | 6.5      | 6.9      | 6.6      |
| LOS                         | A        | A        | A        | A        | A        | A        |
| 95th %tile Queue, veh       | 1        | 1        | 2        | 2        | 1        | 1        |

| Intersection                |          |          |          |          |          |          |
|-----------------------------|----------|----------|----------|----------|----------|----------|
| Intersection Delay, s/veh   | 11.1     |          |          |          |          |          |
| Intersection LOS            | B        |          |          |          |          |          |
| Approach                    | EB       | WB       | NB       | SB       |          |          |
| Entry Lanes                 | 1        | 1        | 2        | 2        |          |          |
| Conflicting Circle Lanes    | 2        | 2        | 2        | 2        |          |          |
| Adj Approach Flow, veh/h    | 140      | 356      | 1398     | 720      |          |          |
| Demand Flow Rate, veh/h     | 142      | 363      | 1426     | 735      |          |          |
| Vehicles Circulating, veh/h | 1000     | 1100     | 123      | 497      |          |          |
| Vehicles Exiting, veh/h     | 232      | 449      | 1019     | 966      |          |          |
| Ped Vol Crossing Leg, #/h   | 0        | 0        | 0        | 0        |          |          |
| Ped Cap Adj                 | 1.000    | 1.000    | 1.000    | 1.000    |          |          |
| Approach Delay, s/veh       | 9.0      | 21.3     | 9.7      | 9.0      |          |          |
| Approach LOS                | A        | C        | A        | A        |          |          |
| Lane                        | Left     | Left     | Left     | Right    | Left     | Right    |
| Designated Moves            | LTR      | LTR      | LT       | TR       | LT       | TR       |
| Assumed Moves               | LTR      | LTR      | LT       | TR       | LT       | TR       |
| RT Channelized              |          |          |          |          |          |          |
| Lane Util                   | 1.000    | 1.000    | 0.470    | 0.530    | 0.469    | 0.531    |
| Follow-Up Headway, s        | 2.535    | 2.535    | 2.667    | 2.535    | 2.667    | 2.535    |
| Critical Headway, s         | 4.328    | 4.328    | 4.645    | 4.328    | 4.645    | 4.328    |
| A (Intercept)               | 1420     | 1420     | 1350     | 1420     | 1350     | 1420     |
| B (Slope)                   | 8.501e-4 | 8.501e-4 | 9.199e-4 | 8.501e-4 | 9.199e-4 | 8.501e-4 |
| Entry Flow, veh/h           | 142      | 363      | 670      | 756      | 345      | 390      |
| Cap Entry Lane, veh/h       | 607      | 557      | 1205     | 1279     | 855      | 931      |
| Entry HV Adj Factor         | 0.985    | 0.980    | 0.980    | 0.980    | 0.981    | 0.979    |
| Flow Entry, veh/h           | 140      | 356      | 657      | 741      | 338      | 382      |
| Cap Entry, veh/h            | 598      | 547      | 1182     | 1253     | 838      | 911      |
| V/C Ratio                   | 0.234    | 0.651    | 0.556    | 0.591    | 0.404    | 0.419    |
| Control Delay, s/veh        | 9.0      | 21.3     | 9.6      | 9.9      | 9.2      | 8.9      |
| LOS                         | A        | C        | A        | A        | A        | A        |
| 95th %tile Queue, veh       | 1        | 5        | 4        | 4        | 2        | 2        |

Timings

8: Banning Lewis Parkway & Golden Jubilee Drive

Total Traffic Conditions

PM Peak Traffic Hour - 2045

|                         |  |  |  |  |  |  |  |  |  |  |  |  |
|-------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Lane Group              | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | WBR                                                                               | NBL                                                                                 | NBT                                                                                 | NBR                                                                                 | SBL                                                                                 | SBT                                                                                 | SBR                                                                                 |
| Lane Configurations     |  |  |  |  |  |  |  |  |  |  |  |  |
| Traffic Volume (vph)    | 672                                                                               | 5                                                                                 | 119                                                                               | 126                                                                               | 5                                                                                 | 711                                                                               | 96                                                                                  | 228                                                                                 | 121                                                                                 | 683                                                                                 | 169                                                                                 | 547                                                                                 |
| Future Volume (vph)     | 672                                                                               | 5                                                                                 | 119                                                                               | 126                                                                               | 5                                                                                 | 711                                                                               | 96                                                                                  | 228                                                                                 | 121                                                                                 | 683                                                                                 | 169                                                                                 | 547                                                                                 |
| Satd. Flow (prot)       | 1770                                                                              | 1863                                                                              | 1583                                                                              | 1770                                                                              | 1863                                                                              | 1583                                                                              | 1770                                                                                | 5085                                                                                | 1583                                                                                | 1770                                                                                | 3539                                                                                | 1583                                                                                |
| Flt Permitted           | 0.605                                                                             |                                                                                   |                                                                                   | 0.754                                                                             |                                                                                   |                                                                                   | 0.667                                                                               |                                                                                     |                                                                                     | 0.333                                                                               |                                                                                     |                                                                                     |
| Satd. Flow (perm)       | 1127                                                                              | 1863                                                                              | 1583                                                                              | 1405                                                                              | 1863                                                                              | 1583                                                                              | 1242                                                                                | 5085                                                                                | 1583                                                                                | 620                                                                                 | 3539                                                                                | 1583                                                                                |
| Satd. Flow (RTOR)       |                                                                                   |                                                                                   | 182                                                                               |                                                                                   |                                                                                   | 658                                                                               |                                                                                     |                                                                                     | 218                                                                                 |                                                                                     |                                                                                     | 595                                                                                 |
| Lane Group Flow (vph)   | 730                                                                               | 5                                                                                 | 129                                                                               | 137                                                                               | 5                                                                                 | 773                                                                               | 104                                                                                 | 248                                                                                 | 132                                                                                 | 742                                                                                 | 184                                                                                 | 595                                                                                 |
| Turn Type               | pm+pt                                                                             | NA                                                                                | Perm                                                                              | pm+pt                                                                             | NA                                                                                | Perm                                                                              | pm+pt                                                                               | NA                                                                                  | Perm                                                                                | pm+pt                                                                               | NA                                                                                  | Perm                                                                                |
| Protected Phases        | 7                                                                                 | 4                                                                                 |                                                                                   | 3                                                                                 | 8                                                                                 |                                                                                   | 5                                                                                   | 2                                                                                   |                                                                                     | 1                                                                                   | 6                                                                                   |                                                                                     |
| Permitted Phases        | 4                                                                                 |                                                                                   | 4                                                                                 | 8                                                                                 |                                                                                   | 8                                                                                 | 2                                                                                   |                                                                                     | 2                                                                                   | 6                                                                                   |                                                                                     | 6                                                                                   |
| Detector Phase          | 7                                                                                 | 4                                                                                 | 4                                                                                 | 3                                                                                 | 8                                                                                 | 8                                                                                 | 5                                                                                   | 2                                                                                   | 2                                                                                   | 1                                                                                   | 6                                                                                   | 6                                                                                   |
| Switch Phase            |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Minimum Initial (s)     | 5.0                                                                               | 5.0                                                                               | 5.0                                                                               | 5.0                                                                               | 5.0                                                                               | 5.0                                                                               | 5.0                                                                                 | 5.0                                                                                 | 5.0                                                                                 | 5.0                                                                                 | 5.0                                                                                 | 5.0                                                                                 |
| Minimum Split (s)       | 10.0                                                                              | 10.0                                                                              | 10.0                                                                              | 10.0                                                                              | 10.0                                                                              | 10.0                                                                              | 11.0                                                                                | 11.0                                                                                | 11.0                                                                                | 11.0                                                                                | 11.0                                                                                | 11.0                                                                                |
| Total Split (s)         | 30.0                                                                              | 49.0                                                                              | 49.0                                                                              | 11.0                                                                              | 30.0                                                                              | 30.0                                                                              | 15.0                                                                                | 12.0                                                                                | 12.0                                                                                | 48.0                                                                                | 45.0                                                                                | 45.0                                                                                |
| Total Split (%)         | 25.0%                                                                             | 40.8%                                                                             | 40.8%                                                                             | 9.2%                                                                              | 25.0%                                                                             | 25.0%                                                                             | 12.5%                                                                               | 10.0%                                                                               | 10.0%                                                                               | 40.0%                                                                               | 37.5%                                                                               | 37.5%                                                                               |
| Yellow Time (s)         | 3.0                                                                               | 3.0                                                                               | 3.0                                                                               | 3.0                                                                               | 3.0                                                                               | 3.0                                                                               | 4.0                                                                                 | 4.0                                                                                 | 4.0                                                                                 | 4.0                                                                                 | 4.0                                                                                 | 4.0                                                                                 |
| All-Red Time (s)        | 2.0                                                                               | 2.0                                                                               | 2.0                                                                               | 2.0                                                                               | 2.0                                                                               | 2.0                                                                               | 2.0                                                                                 | 2.0                                                                                 | 2.0                                                                                 | 2.0                                                                                 | 2.0                                                                                 | 2.0                                                                                 |
| Lost Time Adjust (s)    | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               | 0.0                                                                                 | 0.0                                                                                 | 0.0                                                                                 | 0.0                                                                                 | 0.0                                                                                 | 0.0                                                                                 |
| Total Lost Time (s)     | 5.0                                                                               | 5.0                                                                               | 5.0                                                                               | 5.0                                                                               | 5.0                                                                               | 5.0                                                                               | 6.0                                                                                 | 6.0                                                                                 | 6.0                                                                                 | 6.0                                                                                 | 6.0                                                                                 | 6.0                                                                                 |
| Lead/Lag                | Lead                                                                              | Lag                                                                               | Lag                                                                               | Lead                                                                              | Lag                                                                               | Lag                                                                               | Lead                                                                                | Lag                                                                                 | Lag                                                                                 | Lead                                                                                | Lag                                                                                 | Lag                                                                                 |
| Lead-Lag Optimize?      | Yes                                                                               | Yes                                                                               | Yes                                                                               | Yes                                                                               | Yes                                                                               | Yes                                                                               | Yes                                                                                 | Yes                                                                                 | Yes                                                                                 | Yes                                                                                 | Yes                                                                                 | Yes                                                                                 |
| Recall Mode             | None                                                                              | None                                                                              | None                                                                              | None                                                                              | None                                                                              | None                                                                              | None                                                                                | C-Max                                                                               | C-Max                                                                               | None                                                                                | C-Max                                                                               | C-Max                                                                               |
| Act Effect Green (s)    | 50.2                                                                              | 39.2                                                                              | 39.2                                                                              | 26.2                                                                              | 20.2                                                                              | 20.2                                                                              | 14.3                                                                                | 6.0                                                                                 | 6.0                                                                                 | 58.8                                                                                | 44.6                                                                                | 44.6                                                                                |
| Actuated g/C Ratio      | 0.42                                                                              | 0.33                                                                              | 0.33                                                                              | 0.22                                                                              | 0.17                                                                              | 0.17                                                                              | 0.12                                                                                | 0.05                                                                                | 0.05                                                                                | 0.49                                                                                | 0.37                                                                                | 0.37                                                                                |
| v/c Ratio               | 1.21                                                                              | 0.01                                                                              | 0.20                                                                              | 0.42                                                                              | 0.02                                                                              | 0.95                                                                              | 0.57                                                                                | 0.98                                                                                | 0.46                                                                                | 0.99                                                                                | 0.14                                                                                | 0.62                                                                                |
| Control Delay (s/veh)   | 138.6                                                                             | 24.2                                                                              | 1.7                                                                               | 29.9                                                                              | 38.0                                                                              | 30.0                                                                              | 39.1                                                                                | 107.8                                                                               | 5.3                                                                                 | 52.0                                                                                | 23.2                                                                                | 6.0                                                                                 |
| 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                                                                                 |
| Total Delay (s/veh)     | 138.6                                                                             | 24.2                                                                              | 1.7                                                                               | 29.9                                                                              | 38.0                                                                              | 30.0                                                                              | 39.1                                                                                | 107.8                                                                               | 5.3                                                                                 | 52.0                                                                                | 23.2                                                                                | 6.0                                                                                 |
| LOS                     | F                                                                                 | C                                                                                 | A                                                                                 | C                                                                                 | D                                                                                 | C                                                                                 | D                                                                                   | F                                                                                   | A                                                                                   | D                                                                                   | C                                                                                   | A                                                                                   |
| Approach Delay (s/veh)  |                                                                                   | 117.5                                                                             |                                                                                   |                                                                                   | 30.0                                                                              |                                                                                   |                                                                                     | 65.1                                                                                |                                                                                     |                                                                                     | 30.5                                                                                |                                                                                     |
| Approach LOS            |                                                                                   | F                                                                                 |                                                                                   |                                                                                   | C                                                                                 |                                                                                   |                                                                                     | E                                                                                   |                                                                                     |                                                                                     | C                                                                                   |                                                                                     |
| Queue Length 50th (ft)  | ~612                                                                              | 3                                                                                 | 0                                                                                 | 61                                                                                | 3                                                                                 | 85                                                                                | 46                                                                                  | 71                                                                                  | 0                                                                                   | ~607                                                                                | 34                                                                                  | 9                                                                                   |
| Queue Length 95th (ft)  | #888                                                                              | 11                                                                                | 13                                                                                | 102                                                                               | 14                                                                                | #368                                                                              | 85                                                                                  | #132                                                                                | 0                                                                                   | m#555                                                                               | m38                                                                                 | m58                                                                                 |
| Internal Link Dist (ft) |                                                                                   | 872                                                                               |                                                                                   |                                                                                   | 1012                                                                              |                                                                                   |                                                                                     | 5450                                                                                |                                                                                     |                                                                                     | 375                                                                                 |                                                                                     |
| Turn Bay Length (ft)    | 110                                                                               |                                                                                   | 110                                                                               | 110                                                                               |                                                                                   | 110                                                                               | 230                                                                                 |                                                                                     | 230                                                                                 | 230                                                                                 |                                                                                     |                                                                                     |
| Base Capacity (vph)     | 605                                                                               | 683                                                                               | 695                                                                               | 324                                                                               | 388                                                                               | 850                                                                               | 194                                                                                 | 254                                                                                 | 286                                                                                 | 752                                                                                 | 1314                                                                                | 962                                                                                 |
| Starvation Cap Reductn  | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                   | 0                                                                                   | 0                                                                                   | 0                                                                                   | 0                                                                                   | 0                                                                                   |
| Spillback Cap Reductn   | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                   | 0                                                                                   | 0                                                                                   | 0                                                                                   | 0                                                                                   | 0                                                                                   |
| Storage Cap Reductn     | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                   | 0                                                                                   | 0                                                                                   | 0                                                                                   | 0                                                                                   | 0                                                                                   |
| Reduced v/c Ratio       | 1.21                                                                              | 0.01                                                                              | 0.19                                                                              | 0.42                                                                              | 0.01                                                                              | 0.91                                                                              | 0.54                                                                                | 0.98                                                                                | 0.46                                                                                | 0.99                                                                                | 0.14                                                                                | 0.62                                                                                |

Intersection Summary

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Natural Cycle: 140

Control Type: Actuated-Coordinated

Timings  
8: Banning Lewis Parkway & Golden Jubilee Drive

Total Traffic Conditions  
PM Peak Traffic Hour - 2045

Maximum v/c Ratio: 1.21

Intersection Signal Delay (s/veh): 54.7

Intersection LOS: D

Intersection Capacity Utilization 100.3%

ICU Level of Service G

Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.

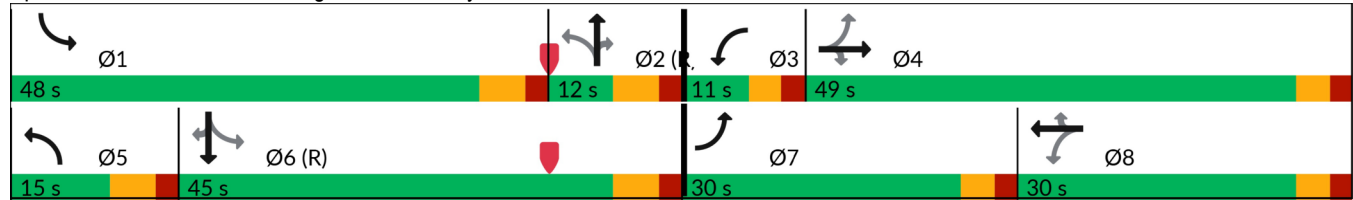
Queue shown is maximum after two cycles.

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

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 8: Banning Lewis Parkway & Golden Jubilee Drive

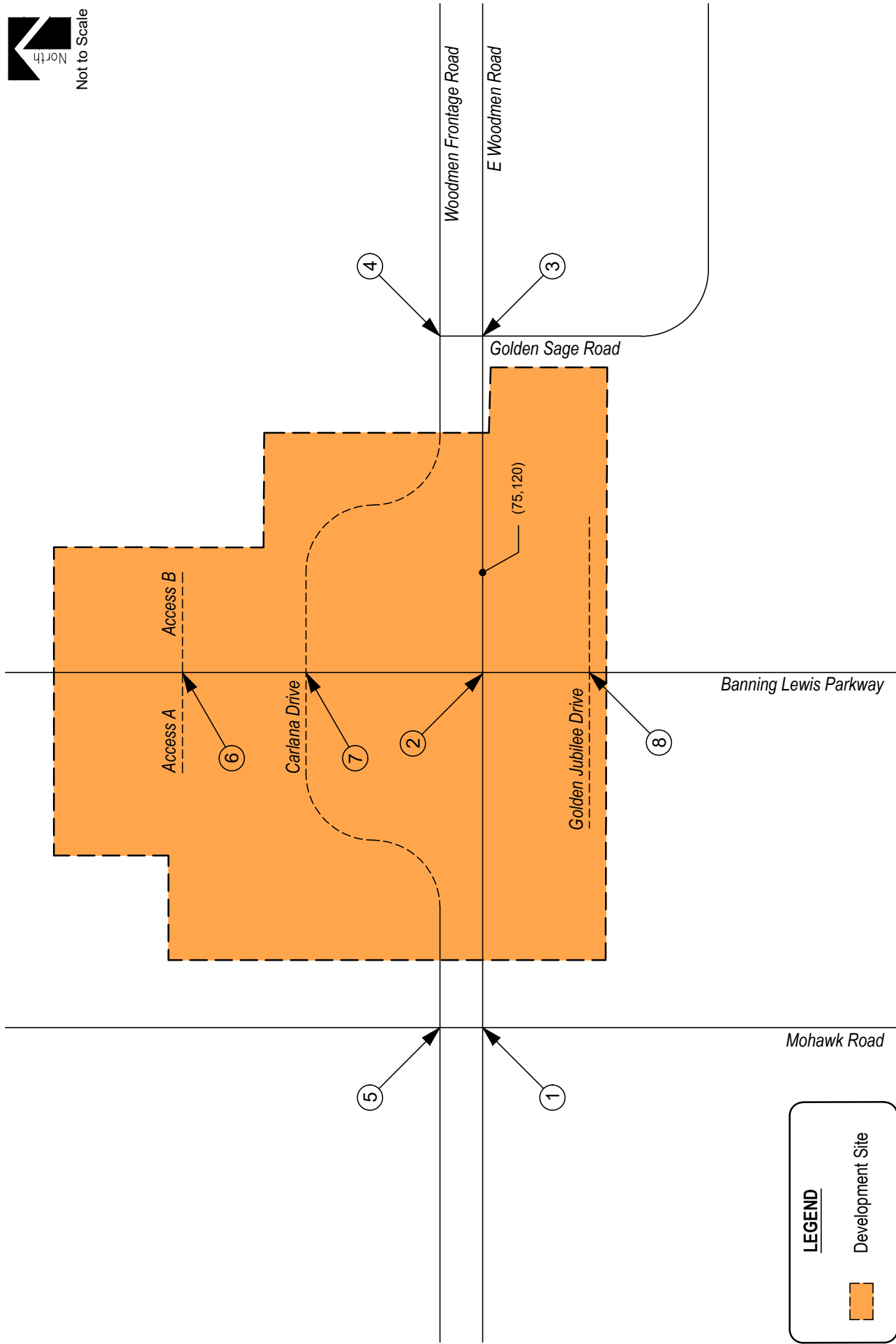


## **APPENDIX D**

### **Recommended Intersection Geometry**

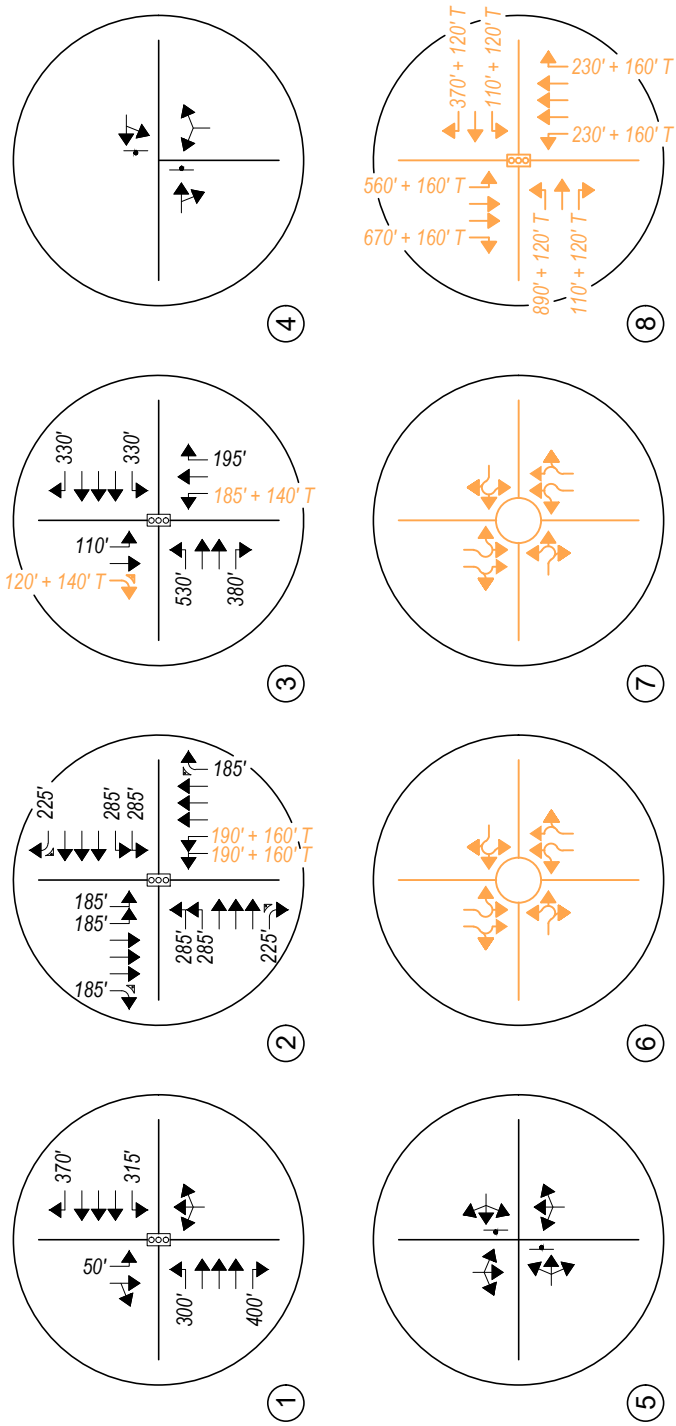


Not to Scale



**LEGEND**

 Development Site



**LEGEND**

Study Intersection

Lane Geometry

Existing Movement

Existing Length

Recommended Movement

Recommended Length

