

# TRANSPORTATION MEMORANDUM

For

**Timbers at Black Forest**  
**El Paso County, Colorado**  
PCD File No. P269

April 2026  
Revised September 2026

Prepared for:

Michael Turner  
9220 Arroya Lane  
Colorado Springs, Colorado 80908

Prepared by:



**SM ROCHA, LLC**

TRAFFIC & TRANSPORTATION ENGINEERING

8700 Turnpike Drive, Suite 240  
Westminster, Colorado 80031  
(303) 458-9798

6 South Tejon Street, Suite 618  
Colorado Springs, Colorado 80903  
(719) 203-6639



Project Engineers  
Leo Ornelas, EIT

Engineer in Responsible Charge:  
Brandon Wilson, PE

25-122556

**Traffic Engineer's Statement**

The attached traffic report and supporting information were prepared under my responsible charge and they comport with the standard of care. So far as is consistent with the standard of care, said report was prepared in general conformance with the criteria established by the County for traffic reports.



---

Brandon Wilson, P.E. #68282

09/09/2026

---

Date

**Developer's Statement**

I, the Developer, have read and will comply with all commitments made on my behalf within this report.

---

Michael Turner  
9220 Arroya Lane  
Colorado Springs, Colorado 80908

---

Date

## Table of Contents

|                                                                         |           |
|-------------------------------------------------------------------------|-----------|
| <b>I. Introduction .....</b>                                            | <b>1</b>  |
| Project Overview .....                                                  | 1         |
| Study Area Boundaries .....                                             | 1         |
| Site Description .....                                                  | 1         |
| Existing and Committed Surface Transportation Network .....             | 5         |
| <b>II. Existing Traffic Conditions .....</b>                            | <b>6</b>  |
| Peak Hour Intersection Levels of Service – Existing Traffic .....       | 8         |
| Existing Traffic Analysis Results .....                                 | 8         |
| <b>III. Future Traffic Conditions Without Proposed Development.....</b> | <b>9</b>  |
| Peak Hour Intersection Levels of Service – Background Traffic .....     | 11        |
| Background Traffic Analysis Results – Year 2028 .....                   | 11        |
| <b>IV. Proposed Project Traffic .....</b>                               | <b>12</b> |
| Trip Generation .....                                                   | 12        |
| Adjustments to Trip Generation Rates .....                              | 13        |
| Trip Distribution .....                                                 | 13        |
| Trip Assignment .....                                                   | 13        |
| <b>V. Future Traffic Conditions With Proposed Development.....</b>      | <b>15</b> |
| Total Traffic Auxiliary Lane Analysis .....                             | 15        |
| Peak Hour Intersection Levels of Service – Total Traffic .....          | 17        |
| Total Traffic Analysis Results Upon Development Build-Out .....         | 18        |
| <b>VI. Project Impacts .....</b>                                        | <b>19</b> |
| Queue Length Analysis .....                                             | 19        |
| Development Impacts .....                                               | 20        |
| Recommended Improvements .....                                          | 20        |
| <b>VII. Conclusion .....</b>                                            | <b>21</b> |

### List of Figures

|                                                                                |    |
|--------------------------------------------------------------------------------|----|
| Figure 1 – Location.....                                                       | 3  |
| Figure 2 – Site Plan.....                                                      | 4  |
| Figure 3 – Existing Traffic Volumes & Intersection Geometry .....              | 7  |
| Figure 4 – Background Traffic Volumes & Intersection Geometry – Year 2028..... | 10 |
| Figure 5 – Distribution and Site-Generated Assignment.....                     | 14 |
| Figure 6 – Total Traffic Volumes & Intersection Geometry – Year 2028.....      | 16 |

### List of Tables

|                                                                                         |    |
|-----------------------------------------------------------------------------------------|----|
| Table 1 – Intersection Capacity Analysis Summary – Existing Traffic .....               | 8  |
| Table 2 – Intersection Capacity Analysis Summary – Background Traffic – Year 2028 ..... | 11 |
| Table 3 – Trip Generation Rates .....                                                   | 12 |
| Table 4 – Trip Generation Summary .....                                                 | 12 |
| Table 5 – Intersection Capacity Analysis Summary – Total Traffic – Year 2028 .....      | 17 |
| Table 6 – Turn Lane Queues and Storage Requirements – Total Traffic – Year 2028.....    | 19 |

### Appendices

|            |                              |
|------------|------------------------------|
| APPENDIX A | TRAFFIC COUNT DATA           |
| APPENDIX B | LEVEL OF SERVICE DEFINITIONS |
| APPENDIX C | CAPACITY WORKSHEETS          |

## I. Introduction

### Project Overview

This transportation memorandum is provided as a planning document and addresses the capacity, geometric, and control requirements associated with the development entitled Timbers at Black Forest. This analysis was prepared in accordance with Appendix B of the County's Engineering Criteria Manual (ECM)<sup>1</sup>.

This traffic impact study has been revised to address County review comments made to the April 2026 version regarding updates to the SYNCHRO analysis, as well as minor text updates throughout.

This proposed residential development consists of 21 single-family detached homes and is located near the northeast corner of Vollmer Road and Arroya Lane in El Paso County, Colorado.

### Study Area Boundaries

The study area to be examined in this analysis encompasses the intersections of Vollmer Road with Arroya Lane and Burgess Road and includes the proposed site access.

Consistent with Section B.2.3.D of Appendix B – Transportation Impact Study Guidelines from the County's ECM, the study area did not extend south towards the intersection of Vollmer Road and Poco Road since the development's trip distribution pattern does not anticipate much, if any, site traffic traveling to/from this intersection.

Figure 1 illustrates location of the site and study intersections.

### Site Description

Land for the development is currently vacant and the area is surrounded by a mix of open space and residential land uses.

The proposed development is understood to entail the new construction of 21 single-family detached homes.

Proposed access to the development is provided via one full-movement access onto Arroya Lane (referred to as Site Access) located approximately 400 feet east of Aspen Valley Road and approximately 310 feet west of Hawks Hill Court.

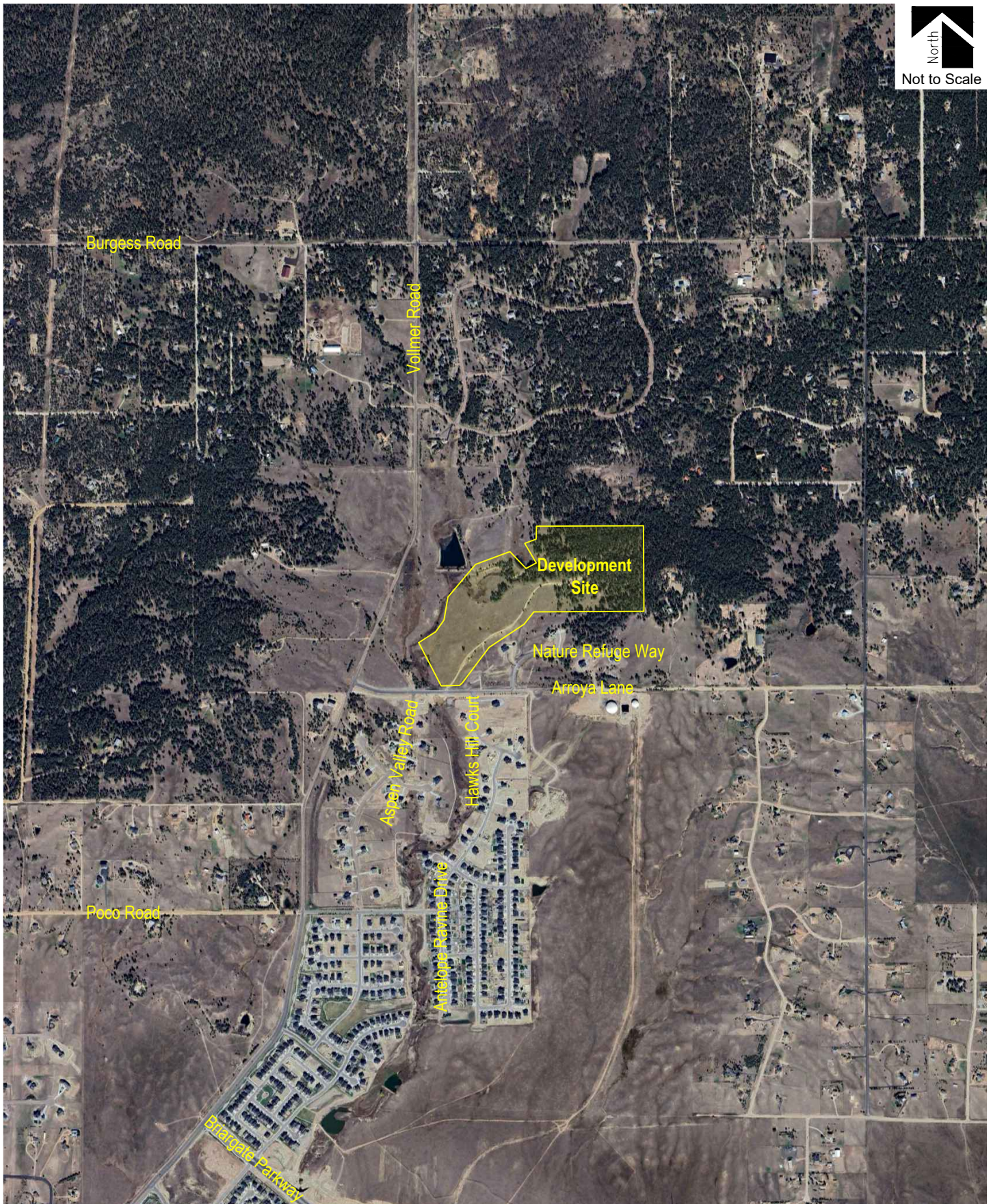
---

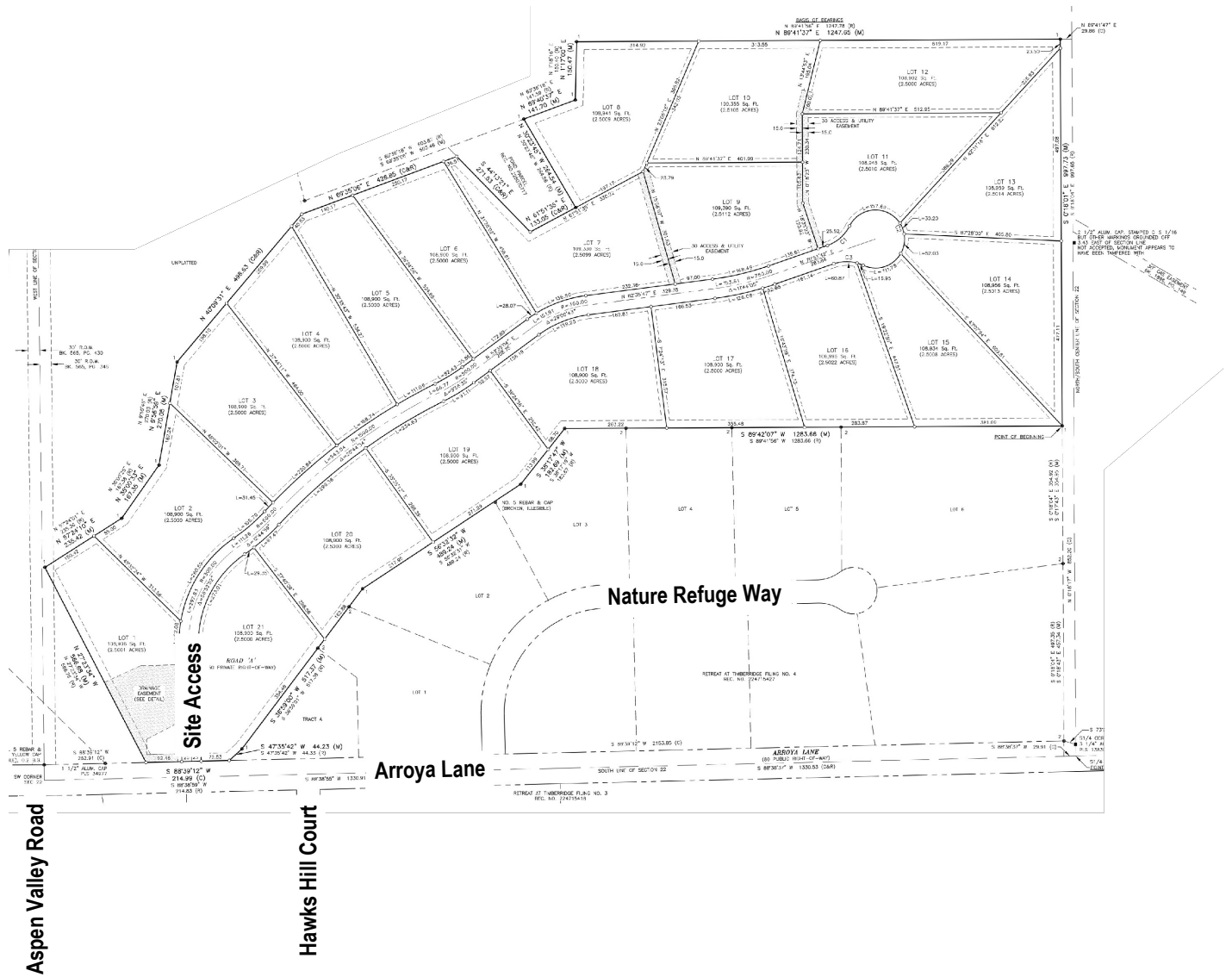
<sup>1</sup> El Paso County Engineering Criteria Manual, El Paso County, January 9, 2025.

For purposes of this study, it is anticipated that development construction would be completed by end of Year 2028.

General site and access locations are shown on Figure 1.

A site plan is shown in Figure 2. This plan is provided for illustrative purposes only.





## Existing and Committed Surface Transportation Network

Within the study area, regional access to the proposed development area is provided by way of Vollmer Road and Burgess Road while local access is provided via Arroya Lane. A brief description of each roadway, based on the County's Major Transportation Corridors Plan (MTCP)<sup>2</sup> and the County's ECM is provided below:

Vollmer Road is generally a north-south roadway. North of Burgess Road, Vollmer Road is classified as a rural major collector roadway while south of Burgess Road, Vollmer Road is classified as an urban major collector roadway. Vollmer Road provides two through lanes (one lane in each direction) with a combination of shared and exclusive turn lanes at the intersections within the study area. Vollmer Road provides a posted speed limit of 45 MPH.

Burgess Road is an east-west rural minor arterial roadway having two through lanes (one lane in each direction) with shared turn lanes at the intersection within the study area. Burgess Road provides a posted speed limit of 45 MPH.

Arroya Lane is an east-west rural minor collector roadway having two through lanes (one lane in each direction) with shared turn lanes at the intersection within the study area. Arroya Lane provides a posted speed limit of 25 MPH and ends approximately 500 feet east of Nature Refuge Way.

All 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.

No regional or specific improvements for the above-described roadways are known to be planned or committed by Year 2028.

---

<sup>2</sup> El Paso County Major Transportation Corridors Plan, Felsburg Holt & Ullevig, July 18, 2024.

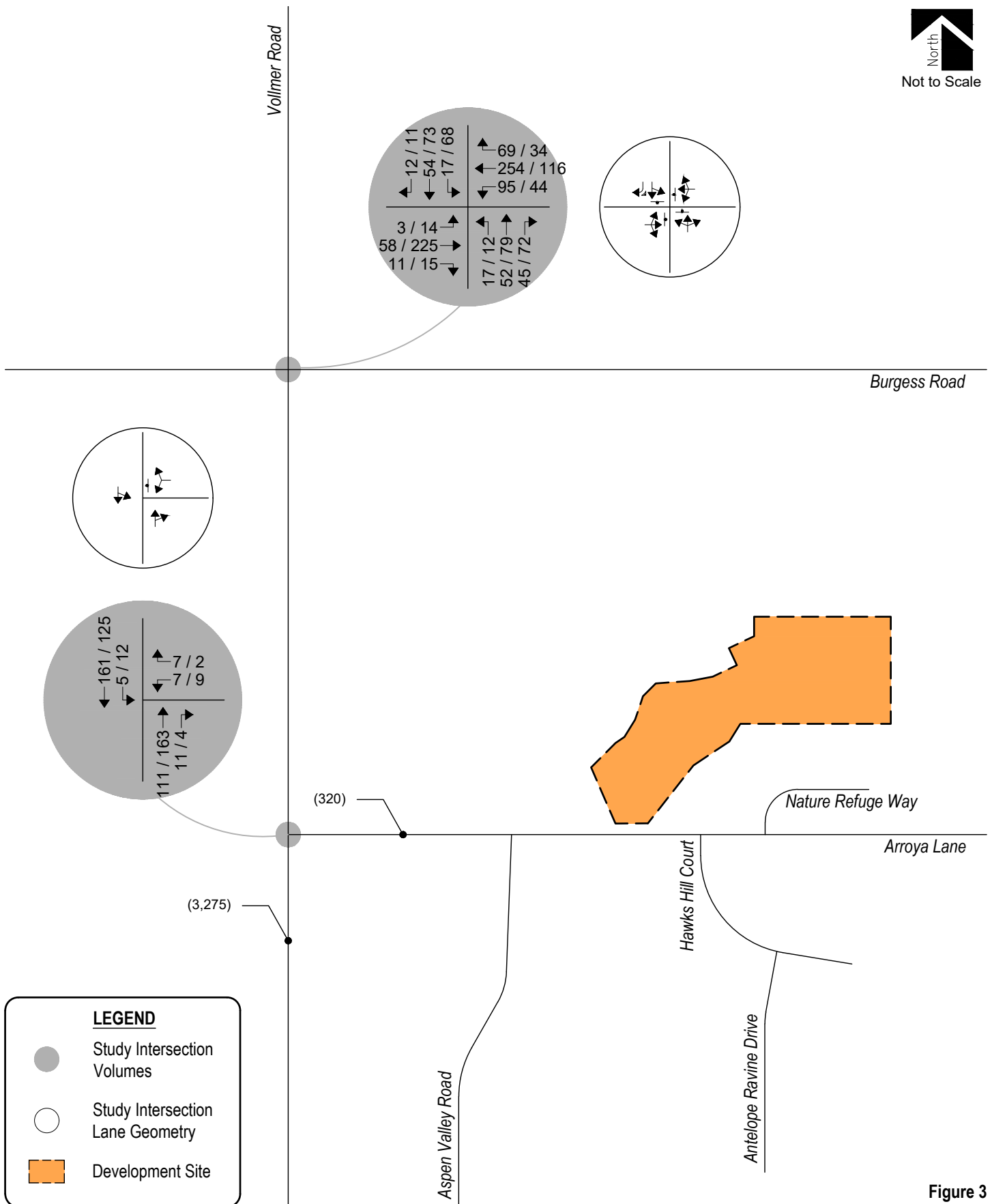
## **II. Existing Traffic Conditions**

Morning (AM) and afternoon (PM) peak hour traffic counts were collected at the intersections of Vollmer Road with Arroya Lane and Burgess Road. Average daily traffic (ADT) volumes were collected over a 24-hour period on Vollmer Road and Arroya Lane. Counts were collected on Tuesday, January 6, 2026, 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 important to note that as part of this traffic count data collection, the adjacent Retreat at TimberRidge Filing No. 3 development located south of Arroya Lane was assumed to be built-out.

Existing volumes and intersection geometry are shown in Figure 3.

Traffic count data is included for reference in Appendix A.



## Peak Hour Intersection Levels of Service – Existing Traffic

The Unsignalized Intersection Analysis technique, 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, was used to analyze the study intersections for existing and future traffic conditions. This nationally accepted technique allows for the determination of intersection level of service (LOS) based on the congestion and delay of each traffic movement.

Pursuant to Appendix B of the County's ECM, the design objective for each scenario of this study shall be level of service "D". 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 |
| Vollmer Road / Burgess Road         |                  |              |
| Eastbound Left, Through, and Right  | A                | B            |
| Westbound Left, Through, and Right  | B                | B            |
| Northbound Left, Through, and Right | A                | B            |
| Southbound Left, Through, and Right | A                | B            |
| Vollmer Road / Arroya Lane          |                  |              |
| Westbound Left and Right            | A                | B            |
| Northbound Through and Right        | A                | A            |
| Southbound Left and Through         | A                | A            |

Key: Stop-Controlled Intersection: Level of Service

## Existing Traffic Analysis Results

Under existing conditions, operational analysis shows that the unsignalized intersection of Vollmer Road with Burgess Road has turning movement operations at LOS B or better during the morning and afternoon peak traffic hours.

The unsignalized intersection of Vollmer Road and Arroya Lane provides turning movement operations at LOS A during the morning peak traffic hour and LOS B or better during the afternoon peak traffic hour.

### **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 Year 2028, a compounded annual growth rate was determined using historical traffic data provided by the County's MTCP, which anticipates a 10-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.

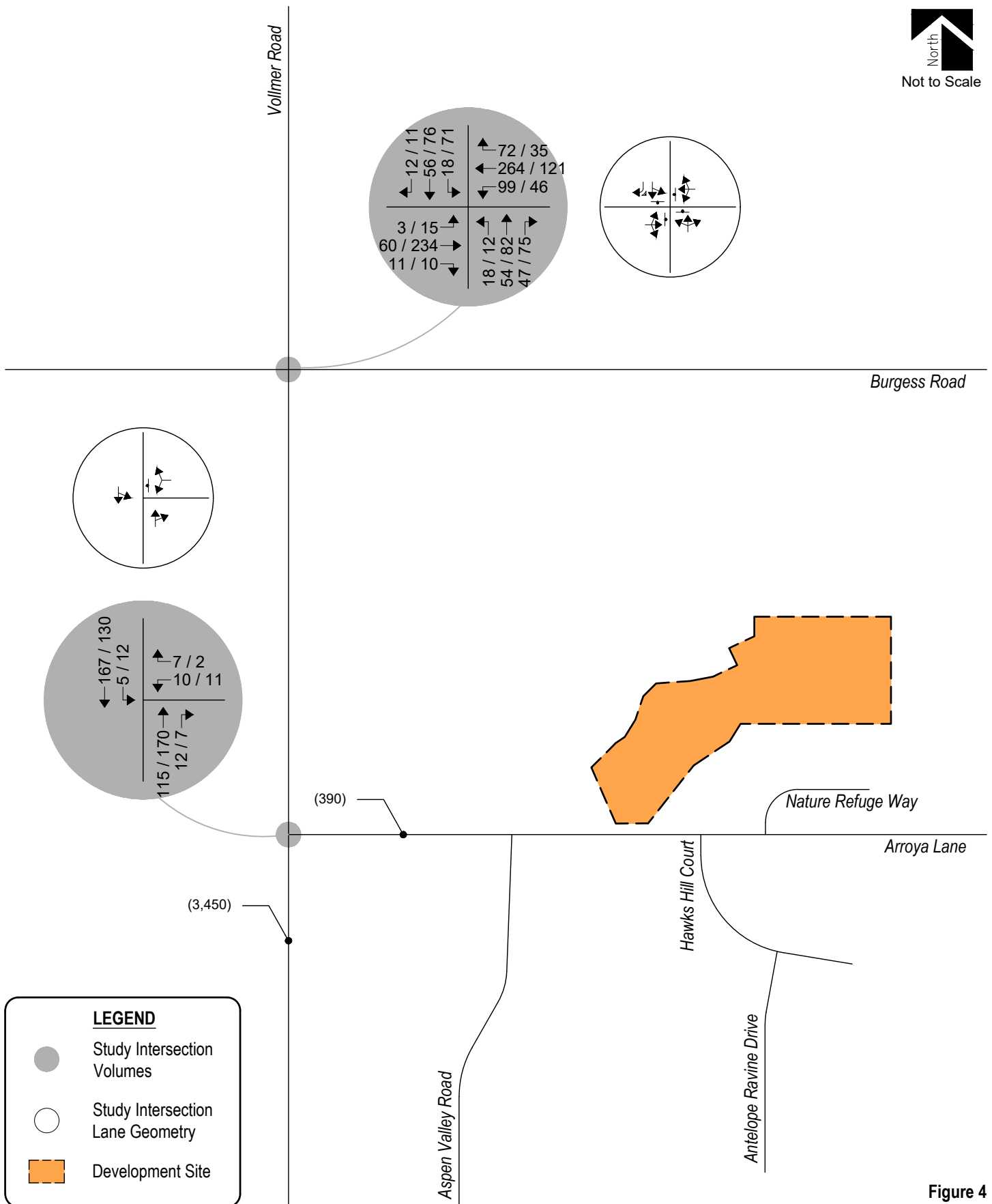
To account for projected traffic from adjacent developments not yet built, trip generations from the Retreat at TimberRidge Filing No. 4 traffic study<sup>3</sup> were added to background traffic volumes. In review of recent aerial imagery, it is noted that four of the ten planned single-family detached houses for Retreat at TimberRidge Filing No. 4 have already been constructed. Therefore, only six houses were added to background traffic conditions.

Pursuant to the area roadway improvements discussed in Section I, Year 2028 background traffic conditions assume no roadway improvements to accommodate regional transportation demands. This assumption provides for a conservative analysis.

Projected background traffic volumes and intersection geometry for Year 2028 are shown in Figure 4.

---

<sup>3</sup> Retreat at TimberRidge Filing No. 4, LSC Transportation Consultants, Inc., February 21, 2024.



**Figure 4**  
**BACKGROUND TRAFFIC - YEAR 2028**  
Volumes & Intersection Geometry  
AM / PM Peak Traffic Hour  
(ADT) : Average Daily Traffic



### 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 2028 are listed in Table 2.

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 2028**

| INTERSECTION<br>LANE GROUPS                   | LEVEL OF SERVICE |              |
|-----------------------------------------------|------------------|--------------|
|                                               | AM PEAK HOUR     | PM PEAK HOUR |
| Vollmer Road / Burgess Road (Stop-Controlled) |                  |              |
| Eastbound Left, Through, and Right            | A                | B            |
| Westbound Left, Through, and Right            | B                | B            |
| Northbound Left, Through, and Right           | A                | B            |
| Southbound Left, Through, and Right           | A                | B            |
| Vollmer Road / Arroya Lane (Stop-Controlled)  |                  |              |
| Westbound Left and Right                      | A                | B            |
| Northbound Through and Right                  | A                | A            |
| Southbound Left and Through                   | A                | A            |

Key: Stop-Controlled Intersection: Level of Service

### Background Traffic Analysis Results – Year 2028

Year 2028 background traffic analysis indicates that the unsignalized intersection of Vollmer Road with Burgess Road continues to project overall operations at LOS B or better during the morning and afternoon peak traffic hours.

The unsignalized intersection of Vollmer Road and Arroya Lane continues to anticipate turning overall turning movement operations at LOS A during the morning peak traffic hour and LOS B or better during the afternoon peak traffic hour.

## 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, 12<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 code 210 (Single-Family Detached Housing) was used for estimating trip generation because of its conservative rates and best fit to the proposed land use description.

**Table 3 – Trip Generation Rates**

| ITE<br>CODELAND USEUNIT |                                |    | TRIP GENERATION RATES |              |      |       |              |      |       |
|-------------------------|--------------------------------|----|-----------------------|--------------|------|-------|--------------|------|-------|
|                         |                                |    | 24<br>HOUR            | AM PEAK HOUR |      |       | PM PEAK HOUR |      |       |
|                         |                                |    |                       | ENTER        | EXIT | TOTAL | ENTER        | EXIT | TOTAL |
| 210                     | Single-Family Detached Housing | DU | 9.09                  | 0.19         | 0.51 | 0.70  | 0.58         | 0.35 | 0.93  |

Key: DU = Dwelling Units.

Note: All data and calculations above are subject to being rounded to nearest value.

Table 4 illustrates projected ADT, AM Peak Hour, and PM Peak Hour traffic volumes likely generated by the proposed development upon build-out.

**Table 4 – Trip Generation Summary**

| ITE<br><br>CODELAND USESIZE |                                |       | TOTAL TRIPS GENERATED |              |      |       |              |      |       |
|-----------------------------|--------------------------------|-------|-----------------------|--------------|------|-------|--------------|------|-------|
|                             |                                |       | 24<br>HOUR            | AM PEAK HOUR |      |       | PM PEAK HOUR |      |       |
|                             |                                |       |                       | ENTER        | EXIT | TOTAL | ENTER        | EXIT | TOTAL |
| 210                         | Single-Family Detached Housing | 21 DU | 191                   | 4            | 11   | 15    | 12           | 7    | 20    |
| Total:                      |                                |       | 191                   | 4            | 11   | 15    | 12           | 7    | 20    |

Key: DU = Dwelling Units.

Note: All data and calculations above are subject to being rounded to nearest value.

Upon build-out, Table 4 illustrates that the proposed development has the potential to generate approximately 191 daily vehicle trips with 15 of those occurring during the morning peak hour and 20 during the afternoon peak hour.

### **Adjustments to Trip Generation Rates**

A development of this type is not likely to attract trips from within area land uses nor pass-by or diverted link trips from the adjacent roadway system, therefore no trip reduction was taken in this analysis.

### **Trip Distribution**

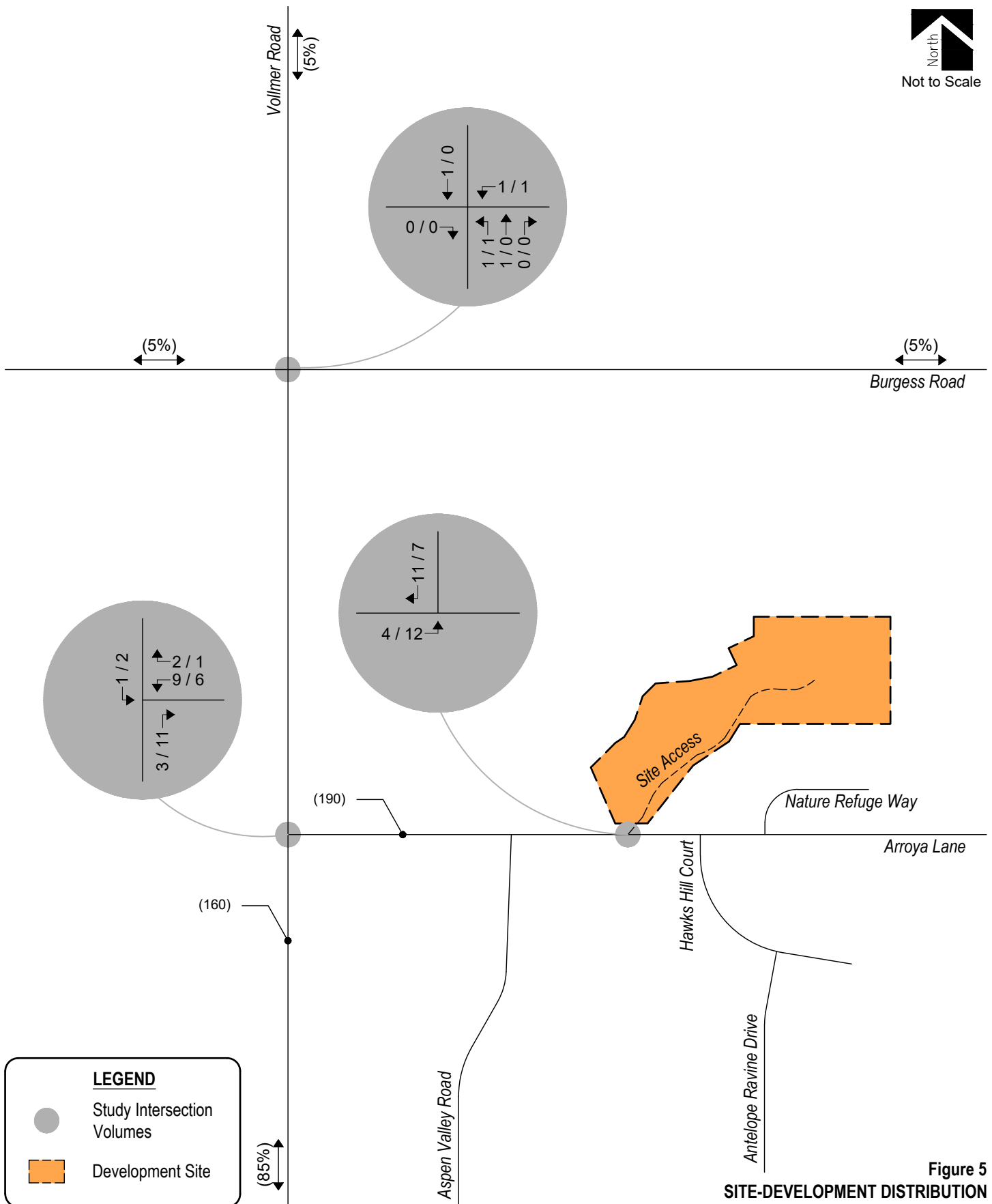
The overall directional distribution of site-generated traffic was determined based on the location of development site within the County, proposed and existing area land uses, allowed turning movements, available roadway network, and in reference to distribution patterns utilized within the Retreat at TimberRidge Filing No. 4 traffic study.

Overall trip distribution patterns for the development are shown on Figure 5.

### **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 5.



**Figure 5**  
**SITE-DEVELOPMENT DISTRIBUTION**

(%) : Overall

**SITE-GENERATED TRIPS**

AM / PM Peak Hour

(ADT) : Average Daily Traffic



**TIMBERS AT BLACK FOREST**

*Transportation Memorandum*

**SM ROCHA, LLC**

*Traffic & Transportation Engineering*

September 2026

Page 14

## **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 Year 2028 with consideration of site-generated traffic.

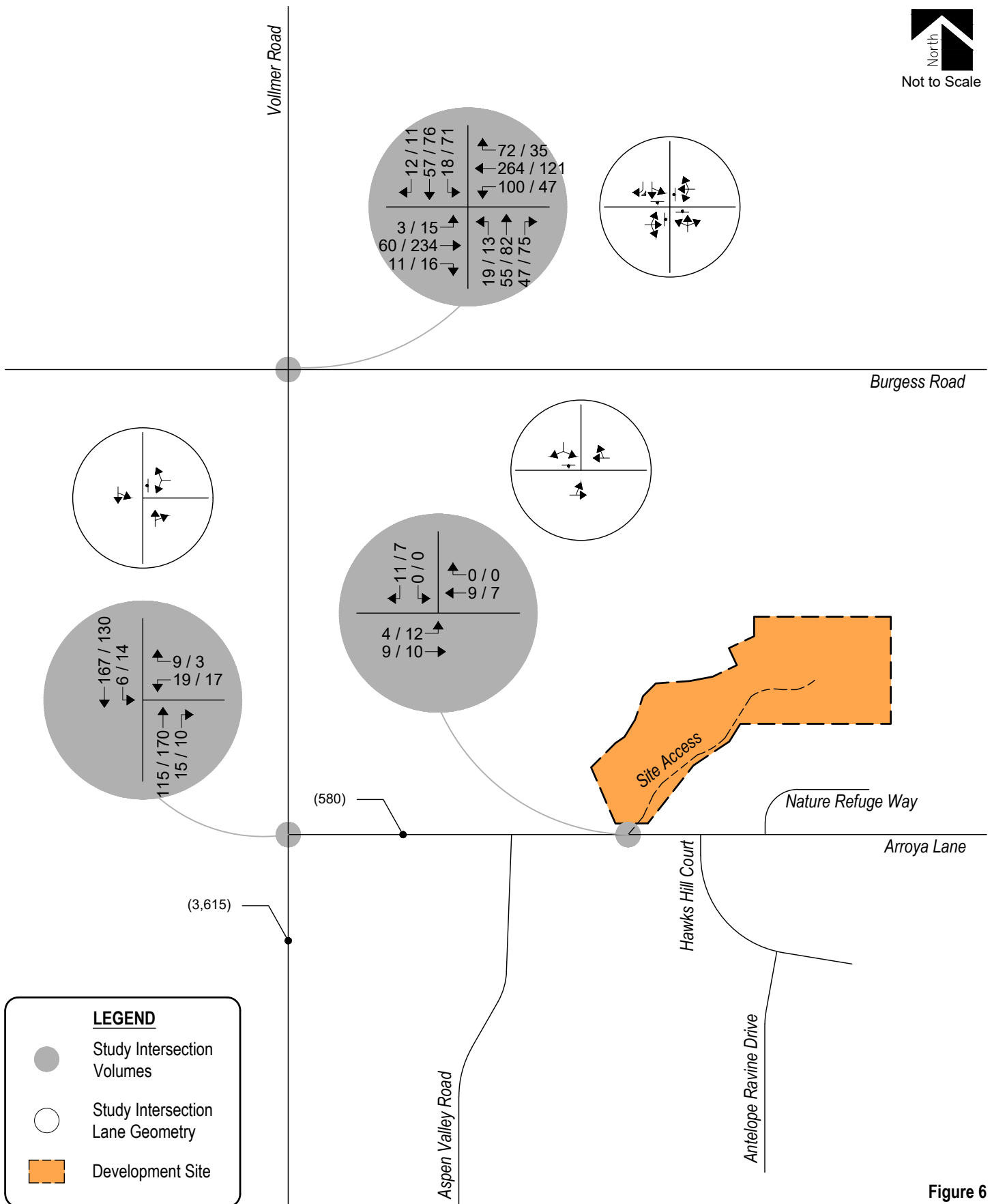
Pursuant to area roadway improvement discussions provided in Section III, Year 2028 total traffic conditions assume no roadway improvements to accommodate regional transportation demands. Roadway improvements associated with site development are expected to be limited to site access and frontage as required by the governing agency.

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

Auxiliary lanes for the site development access drive were evaluated and are to be based on the County's ECM.

Considering development build-out, an evaluation of auxiliary lane requirements, pursuant to Section 2.3.7.D of the County's ECM, reveals that an eastbound left turn deceleration lane at the site access along Arroya Lane is not required since the development's projected peak hour left turn ingress volume does not exceed the County's threshold of 25 vehicles per hour. Similarly, a westbound right turn lane is not required as the right turn ingress volume does not exceed the threshold of 25 vehicles per hour.

Projected Year 2028 total traffic volumes and intersection geometry are shown in Figure 6.



**Figure 6**  
**TOTAL TRAFFIC - YEAR 2028**  
Volumes & Intersection Geometry  
AM / PM Peak Traffic Hour  
(ADT) : Average Daily Traffic



### 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 Year 2028 are summarized in Table 5.

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

**Table 5 – Intersection Capacity Analysis Summary – Total Traffic – Year 2028**

| INTERSECTION<br>LANE GROUPS                   | LEVEL OF SERVICE |              |
|-----------------------------------------------|------------------|--------------|
|                                               | AM PEAK HOUR     | PM PEAK HOUR |
| Vollmer Road / Burgess Road (Stop-Controlled) |                  |              |
| Eastbound Left, Through, and Right            | A                | B            |
| Westbound Left, Through, and Right            | B                | B            |
| Northbound Left, Through, and Right           | A                | B            |
| Southbound Left, Through, and Right           | A                | B            |
| Vollmer Road / Arroya Lane (Stop-Controlled)  |                  |              |
| Westbound Left and Right                      | B                | B            |
| Northbound Through and Right                  | A                | A            |
| Southbound Left and Through                   | A                | A            |
| Arroya Lane / Site Access (Stop-Controlled)   |                  |              |
| Eastbound Left and Through                    | A                | A            |
| Westbound Through and Right                   | A                | A            |
| Southbound Left and Right                     | A                | A            |

Key: Stop-Controlled Intersection: Level of Service

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

Table 6 illustrates how, by Year 2028 and upon development build-out, the stop-controlled intersection of Vollmer Road with Burgess Road is projected to have turning movement operations at LOS B for the morning and afternoon peak traffic hours.

The stop-controlled intersection of Vollmer Road and Arroya Lane continues to anticipate turning movement operations at LOS B or better during the morning and afternoon peak traffic hours.

The stop-controlled intersection of Arroya Lane and Site Access is projected to have turning movement operations at LOS A during the morning and afternoon peak traffic hours.

These intersection operations are similar to existing conditions.

## 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 2028 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 the County's minimum turn lane lengths or accommodate long-term 95<sup>th</sup> percentile vehicle queues, whichever is greater.

Table 6 summarizes the 95<sup>th</sup> percentile queue results in comparison to the projected storage requirements for turn movements within study area for Year 2028.

**Table 6 – Turn Lane Queues and Storage Requirements – Total Traffic – Year 2028**

| Intersection                  | Turn Movement |       | Existing Turn Lane Length (feet) | Background 2028     |                     | Total 2028          |                     | Recommended Turn Lane Length (feet) |
|-------------------------------|---------------|-------|----------------------------------|---------------------|---------------------|---------------------|---------------------|-------------------------------------|
|                               |               |       |                                  | AM Peak Hour (feet) | PM Peak Hour (feet) | AM Peak Hour (feet) | PM Peak Hour (feet) |                                     |
| Stop-Controlled Intersections |               |       |                                  |                     |                     |                     |                     |                                     |
| Vollmer Road / Burgess Road   | EB            | L,T,R | -                                | 10'                 | 53'                 | 10'                 | 53'                 | -                                   |
|                               | WB            | L,T,R | -                                | 100'                | 35'                 | 103'                | 35'                 | -                                   |
|                               | NB            | L,T,R | -                                | 18'                 | 28'                 | 18'                 | 28'                 | -                                   |
|                               | SB            | L,T,R | -                                | 13'                 | 28'                 | 13'                 | 28'                 | -                                   |
| Vollmer Road / Arroya Lane    | WB            | L,R   | -                                | 3'                  | 3'                  | 3'                  | 3'                  | -                                   |
|                               | NB            | T,R   | -                                | 0'                  | 0'                  | 0'                  | 0'                  | -                                   |
|                               | SB            | L,T   | -                                | 0'                  | 0'                  | 0'                  | 0'                  | -                                   |
| Arroya Lane / Site Access     | EB            | T,R   | -                                | -                   | -                   | 0'                  | 0'                  | -                                   |
|                               | WB            | L,T   | -                                | -                   | -                   | 0'                  | 0'                  | -                                   |
|                               | SB            | L,R   | -                                | -                   | -                   | 0'                  | 0'                  | -                                   |

Note: Turn Lane Length does not include taper length.

As Table 6 shows, all turn lane lengths at stop-controlled intersections have sufficient storage to accommodate future traffic volumes.

**Development Impacts**

Analysis of future traffic conditions indicates that the addition of site-generated traffic is expected to create no negative impact to traffic operations for the existing and surrounding roadway system upon roadway and intersection control improvements assumed within this analysis. With all conservative assumptions defined in this analysis, the study intersections are projected to operate at future levels of service comparable to existing traffic conditions.

**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 County's ECM.

Pursuant to operational analysis results illustrated and described throughout this study, no roadway nor intersection improvements are recommended.

## **VII. Conclusion**

This transportation memorandum addressed the capacity, geometric, and control requirements associated with the development entitled Timbers at Black Forest. This proposed residential development consists of 21 single-family detached homes. The development is located near the northeast corner of Vollmer Road and Arroya Lane in El Paso County, Colorado.

The study area examined in this analysis encompassed the intersections of Vollmer Road with Arroya Lane and Burgess Road and includes the proposed site access.

Analysis was conducted for critical AM Peak Hour and PM Peak Hour traffic operations for existing traffic conditions, Year 2028 background traffic conditions, and Year 2028 total traffic conditions.

Analysis of existing traffic conditions indicates that all stop-controlled intersections operate with turn movements at or better than LOS B during their respective peak traffic periods.

Under Year 2028 background traffic conditions, operational analysis shows that all stop-controlled intersections anticipate turn movement operations at or better than LOS B during their respective peak traffic periods.

Analysis of future traffic conditions indicates that the addition of site-generated traffic is expected to create no negative impact to traffic operations for the existing and surrounding roadway system. With all conservative assumptions defined in this analysis, the study intersections are projected to operate at future levels of service comparable to Year 2028 background traffic conditions. The proposed site access has operations at LOS B or better during peak traffic periods and upon build-out.

This site is subject to the El Paso County Road Impact Fee Program (Resolution 25-337), as amended. An option for payment will be selected at the final land use approval stage.

## **APPENDIX A**

### **Traffic Count Data**



ALL TRAFFIC DATA SERVICES

(303) 216-2439

www.alltrafficdata.net

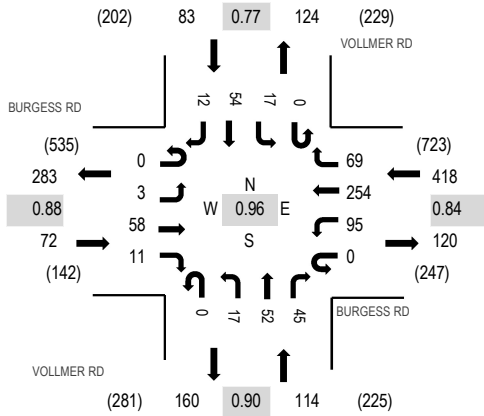
Location: 1 VOLLMER RD & BURGESS RD AM

Date: Tuesday, January 6, 2026

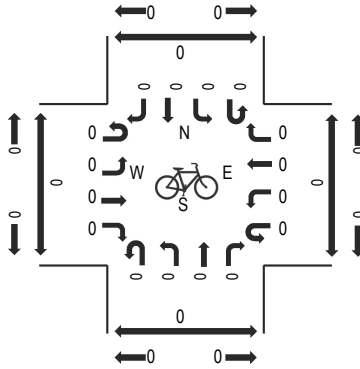
Peak Hour: 07:15 AM - 08:15 AM

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

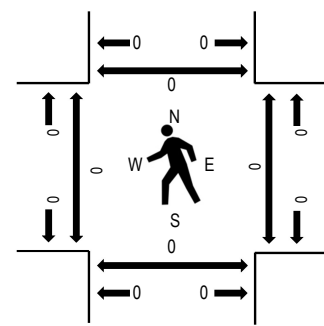
### Peak Hour - Motorized Vehicles



### Peak Hour - Bicycles



### Peak Hour - Pedestrians



Note: Total study counts contained in parentheses.

### Traffic Counts - Motorized Vehicles

| Interval<br>Start Time | BURGESS RD<br>Eastbound |      |      |       | BURGESS RD<br>Westbound |      |      |       | VOLLMER RD<br>Northbound |      |      |       | VOLLMER 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                       | 0    | 13   | 0     | 0                       | 13   | 61   | 16    | 0                        | 3    | 9    | 5     | 0                        | 4    | 16   | 4     | 144   | 672             | 0                    | 0    | 0     | 0     |
| 7:15 AM                | 0                       | 0    | 11   | 1     | 0                       | 29   | 74   | 21    | 0                        | 3    | 6    | 14    | 0                        | 6    | 10   | 4     | 179   | 687             | 0                    | 0    | 0     | 0     |
| 7:30 AM                | 0                       | 1    | 11   | 3     | 0                       | 25   | 72   | 19    | 0                        | 4    | 13   | 7     | 0                        | 4    | 15   | 5     | 179   | 668             | 0                    | 0    | 0     | 0     |
| 7:45 AM                | 0                       | 1    | 20   | 4     | 0                       | 21   | 49   | 19    | 0                        | 8    | 15   | 13    | 0                        | 4    | 15   | 1     | 170   | 648             | 0                    | 0    | 0     | 0     |
| 8:00 AM                | 0                       | 1    | 16   | 3     | 0                       | 20   | 59   | 10    | 0                        | 2    | 18   | 11    | 0                        | 3    | 14   | 2     | 159   | 620             | 0                    | 0    | 0     | 0     |
| 8:15 AM                | 0                       | 4    | 15   | 3     | 0                       | 13   | 53   | 7     | 0                        | 3    | 21   | 11    | 0                        | 8    | 16   | 6     | 160   |                 | 0                    | 0    | 0     | 0     |
| 8:30 AM                | 0                       | 1    | 19   | 1     | 0                       | 11   | 52   | 11    | 0                        | 4    | 12   | 11    | 0                        | 9    | 21   | 7     | 159   |                 | 0                    | 0    | 0     | 0     |
| 8:45 AM                | 0                       | 1    | 13   | 0     | 0                       | 11   | 49   | 8     | 0                        | 7    | 15   | 10    | 0                        | 9    | 16   | 3     | 142   |                 | 0                    | 0    | 0     | 0     |
| Count Total            | 0                       | 9    | 118  | 15    | 0                       | 143  | 469  | 111   | 0                        | 34   | 109  | 82    | 0                        | 47   | 123  | 32    | 1,292 |                 | 0                    | 0    | 0     | 0     |
| Peak Hour              | 0                       | 3    | 58   | 11    | 0                       | 95   | 254  | 69    | 0                        | 17   | 52   | 45    | 0                        | 17   | 54   | 12    | 687   |                 | 0                    | 0    | 0     | 0     |



(303) 216-2439  
www.alltrafficdata.net

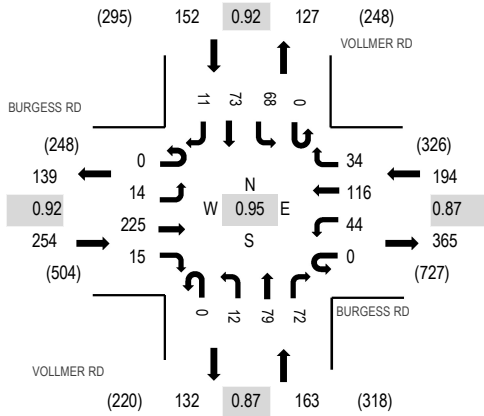
**Location:** 1 VOLLMER RD & BURGESS RD PM

**Date:** Tuesday, January 6, 2026

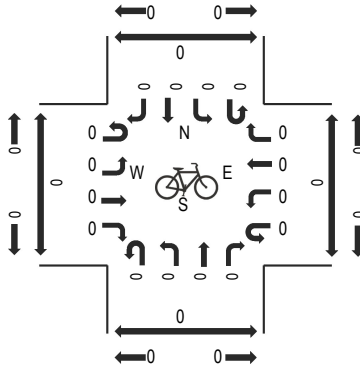
**Peak Hour:** 04:00 PM - 05:00 PM

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

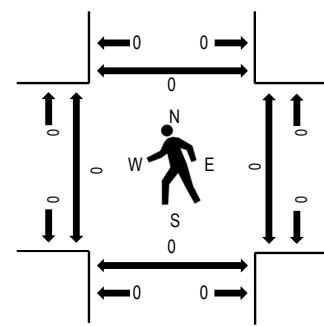
### Peak Hour - Motorized Vehicles



### Peak Hour - Bicycles



### Peak Hour - Pedestrians



Note: Total study counts contained in parentheses.

### Traffic Counts - Motorized Vehicles

| Interval<br>Start Time | BURGESS RD<br>Eastbound |      |      |       | BURGESS RD<br>Westbound |      |      |       | VOLLMER RD<br>Northbound |      |      |       | VOLLMER 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                       | 2    | 50   | 4     | 0                       | 13   | 34   | 9     | 0                        | 4    | 23   | 19    | 0                        | 16   | 17   | 2     | 193   | 763             | 0                    | 0    | 0     | 0     |
| 4:15 PM                | 0                       | 4    | 60   | 4     | 0                       | 14   | 28   | 6     | 0                        | 2    | 19   | 19    | 0                        | 20   | 21   | 4     | 201   | 747             | 0                    | 0    | 0     | 0     |
| 4:30 PM                | 0                       | 4    | 56   | 3     | 0                       | 10   | 28   | 8     | 0                        | 2    | 16   | 14    | 0                        | 13   | 15   | 1     | 170   | 736             | 0                    | 0    | 0     | 0     |
| 4:45 PM                | 0                       | 4    | 59   | 4     | 0                       | 7    | 26   | 11    | 0                        | 4    | 21   | 20    | 0                        | 19   | 20   | 4     | 199   | 735             | 0                    | 0    | 0     | 0     |
| 5:00 PM                | 0                       | 2    | 49   | 5     | 0                       | 9    | 29   | 6     | 0                        | 4    | 26   | 13    | 0                        | 16   | 13   | 5     | 177   | 680             | 0                    | 0    | 0     | 0     |
| 5:15 PM                | 0                       | 1    | 67   | 2     | 0                       | 8    | 18   | 5     | 0                        | 6    | 33   | 10    | 0                        | 26   | 11   | 3     | 190   |                 | 0                    | 0    | 0     | 0     |
| 5:30 PM                | 0                       | 5    | 54   | 6     | 0                       | 3    | 18   | 8     | 0                        | 2    | 11   | 21    | 0                        | 24   | 15   | 2     | 169   |                 | 0                    | 0    | 0     | 0     |
| 5:45 PM                | 0                       | 1    | 56   | 2     | 0                       | 4    | 16   | 8     | 0                        | 3    | 15   | 11    | 0                        | 15   | 10   | 3     | 144   |                 | 0                    | 0    | 0     | 0     |
| Count Total            | 0                       | 23   | 451  | 30    | 0                       | 68   | 197  | 61    | 0                        | 27   | 164  | 127   | 0                        | 149  | 122  | 24    | 1,443 |                 | 0                    | 0    | 0     | 0     |
| Peak Hour              | 0                       | 14   | 225  | 15    | 0                       | 44   | 116  | 34    | 0                        | 12   | 79   | 72    | 0                        | 68   | 73   | 11    | 763   |                 | 0                    | 0    | 0     | 0     |



ALL TRAFFIC DATA SERVICES

(303) 216-2439

www.alltrafficdata.net

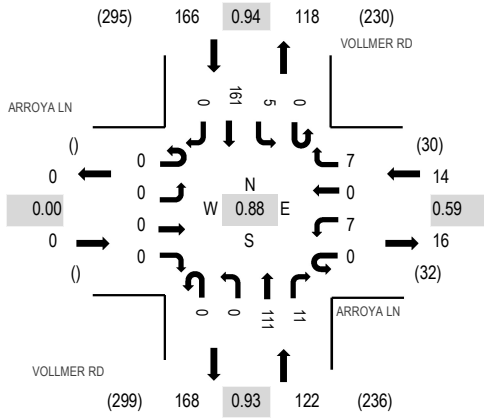
Location: 2 VOLLMER RD & ARROYA LN AM

Date: Tuesday, January 6, 2026

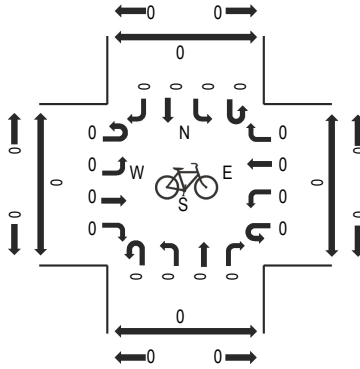
Peak Hour: 07:15 AM - 08:15 AM

Peak 15-Minutes: 07:45 AM - 08:00 AM

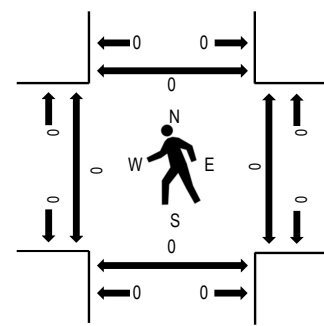
### Peak Hour - Motorized Vehicles



### Peak Hour - Bicycles



### Peak Hour - Pedestrians



Note: Total study counts contained in parentheses.

### Traffic Counts - Motorized Vehicles

| Interval<br>Start Time | ARROYA LN<br>Eastbound |      |      |       | ARROYA LN<br>Westbound |      |      |       | VOLLMER RD<br>Northbound |      |      |       | VOLLMER 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                      | 0    | 0    | 0     | 0                      | 3    | 0    | 3     | 0                        | 0    | 11   | 3     | 0                        | 0    | 31   | 0     | 51    | 281             | 0                    | 0    | 0     | 0     |
| 7:15 AM                | 0                      | 0    | 0    | 0     | 0                      | 1    | 0    | 2     | 0                        | 0    | 23   | 2     | 0                        | 1    | 42   | 0     | 71    | 302             | 0                    | 0    | 0     | 0     |
| 7:30 AM                | 0                      | 0    | 0    | 0     | 0                      | 1    | 0    | 1     | 0                        | 0    | 24   | 5     | 0                        | 0    | 42   | 0     | 73    | 301             | 0                    | 0    | 0     | 0     |
| 7:45 AM                | 0                      | 0    | 0    | 0     | 0                      | 4    | 0    | 4     | 0                        | 0    | 32   | 2     | 0                        | 2    | 42   | 0     | 86    | 295             | 0                    | 0    | 0     | 0     |
| 8:00 AM                | 0                      | 0    | 0    | 0     | 0                      | 1    | 0    | 0     | 0                        | 0    | 32   | 2     | 0                        | 2    | 35   | 0     | 72    | 280             | 0                    | 0    | 0     | 0     |
| 8:15 AM                | 0                      | 0    | 0    | 0     | 0                      | 0    | 0    | 1     | 0                        | 0    | 36   | 0     | 0                        | 2    | 31   | 0     | 70    |                 | 0                    | 0    | 0     | 0     |
| 8:30 AM                | 0                      | 0    | 0    | 0     | 0                      | 2    | 0    | 2     | 0                        | 0    | 25   | 4     | 0                        | 2    | 32   | 0     | 67    |                 | 0                    | 0    | 0     | 0     |
| 8:45 AM                | 0                      | 0    | 0    | 0     | 0                      | 3    | 0    | 2     | 0                        | 0    | 32   | 3     | 0                        | 2    | 29   | 0     | 71    |                 | 0                    | 0    | 0     | 0     |
| Count Total            | 0                      | 0    | 0    | 0     | 0                      | 15   | 0    | 15    | 0                        | 0    | 215  | 21    | 0                        | 11   | 284  | 0     | 561   |                 | 0                    | 0    | 0     | 0     |
| Peak Hour              | 0                      | 0    | 0    | 0     | 0                      | 7    | 0    | 7     | 0                        | 0    | 111  | 11    | 0                        | 5    | 161  | 0     | 302   |                 | 0                    | 0    | 0     | 0     |



ALL TRAFFIC DATA SERVICES

(303) 216-2439

www.alltrafficdata.net

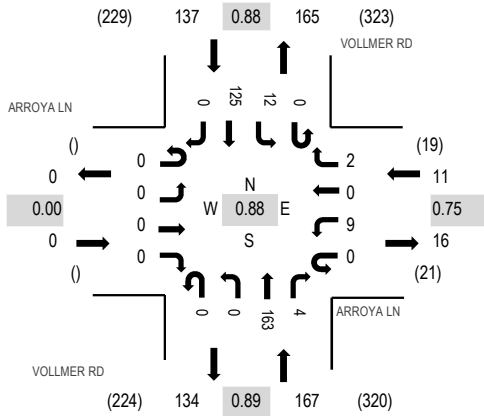
Location: 2 VOLLMER RD & ARROYA LN PM

Date: Tuesday, January 6, 2026

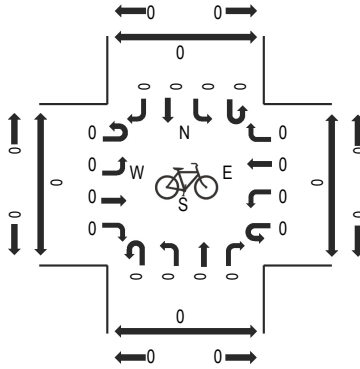
Peak Hour: 04:00 PM - 05:00 PM

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

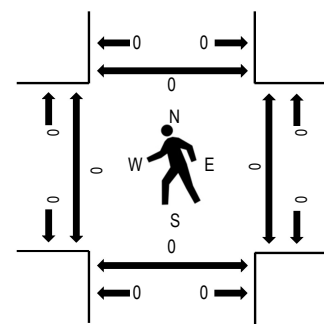
### Peak Hour - Motorized Vehicles



### Peak Hour - Bicycles



### Peak Hour - Pedestrians



Note: Total study counts contained in parentheses.

### Traffic Counts - Motorized Vehicles

| Interval<br>Start Time | ARROYA LN<br>Eastbound |      |      |       | ARROYA LN<br>Westbound |      |      |       | VOLLMER RD<br>Northbound |      |      |       | VOLLMER 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                      | 0    | 0    | 0     | 0                      | 4    | 0    | 1     | 0                        | 0    | 46   | 0     | 0                        | 5    | 34   | 0     | 90    | 315             | 0                    | 0    | 0     | 0     |
| 4:15 PM                | 0                      | 0    | 0    | 0     | 0                      | 0    | 0    | 0     | 0                        | 0    | 36   | 1     | 0                        | 3    | 31   | 0     | 71    | 301             | 0                    | 0    | 0     | 0     |
| 4:30 PM                | 0                      | 0    | 0    | 0     | 0                      | 3    | 0    | 1     | 0                        | 0    | 35   | 0     | 0                        | 3    | 29   | 0     | 71    | 304             | 0                    | 0    | 0     | 0     |
| 4:45 PM                | 0                      | 0    | 0    | 0     | 0                      | 2    | 0    | 0     | 0                        | 0    | 46   | 3     | 0                        | 1    | 31   | 0     | 83    | 289             | 0                    | 0    | 0     | 0     |
| 5:00 PM                | 0                      | 0    | 0    | 0     | 0                      | 2    | 0    | 2     | 0                        | 0    | 44   | 0     | 0                        | 1    | 27   | 0     | 76    | 253             | 0                    | 0    | 0     | 0     |
| 5:15 PM                | 0                      | 0    | 0    | 0     | 0                      | 1    | 0    | 1     | 0                        | 0    | 50   | 0     | 0                        | 2    | 20   | 0     | 74    |                 | 0                    | 0    | 0     | 0     |
| 5:30 PM                | 0                      | 0    | 0    | 0     | 0                      | 0    | 0    | 2     | 0                        | 0    | 32   | 0     | 0                        | 0    | 22   | 0     | 56    |                 | 0                    | 0    | 0     | 0     |
| 5:45 PM                | 0                      | 0    | 0    | 0     | 0                      | 0    | 0    | 0     | 0                        | 0    | 27   | 0     | 0                        | 2    | 18   | 0     | 47    |                 | 0                    | 0    | 0     | 0     |
| Count Total            | 0                      | 0    | 0    | 0     | 0                      | 12   | 0    | 7     | 0                        | 0    | 316  | 4     | 0                        | 17   | 212  | 0     | 568   |                 | 0                    | 0    | 0     | 0     |
| Peak Hour              | 0                      | 0    | 0    | 0     | 0                      | 9    | 0    | 2     | 0                        | 0    | 163  | 4     | 0                        | 12   | 125  | 0     | 315   |                 | 0                    | 0    | 0     | 0     |



# All Traffic Data Services

SITE 2\_E - ARROYA LN EAST OF VOLLMER RD

| Time                 | EB      | WB      | Total   |
|----------------------|---------|---------|---------|
| 1/6/2026             | 0       | 0       | 0       |
| 1/6/2026 12:15:00 AM | 0       | 0       | 0       |
| 1/6/2026 12:30:00 AM | 0       | 0       | 0       |
| 1/6/2026 12:45:00 AM | 0       | 0       | 0       |
| 1/6/2026 1:00:00 AM  | 0       | 1       | 1       |
| 1/6/2026 1:15:00 AM  | 0       | 0       | 0       |
| 1/6/2026 1:30:00 AM  | 0       | 0       | 0       |
| 1/6/2026 1:45:00 AM  | 0       | 0       | 0       |
| 1/6/2026 2:00:00 AM  | 0       | 0       | 0       |
| 1/6/2026 2:15:00 AM  | 0       | 0       | 0       |
| 1/6/2026 2:30:00 AM  | 0       | 0       | 0       |
| 1/6/2026 2:45:00 AM  | 0       | 0       | 0       |
| 1/6/2026 3:00:00 AM  | 0       | 0       | 0       |
| 1/6/2026 3:15:00 AM  | 0       | 0       | 0       |
| 1/6/2026 3:30:00 AM  | 0       | 0       | 0       |
| 1/6/2026 3:45:00 AM  | 0       | 0       | 0       |
| 1/6/2026 4:00:00 AM  | 0       | 0       | 0       |
| 1/6/2026 4:15:00 AM  | 1       | 0       | 1       |
| 1/6/2026 4:30:00 AM  | 0       | 0       | 0       |
| 1/6/2026 4:45:00 AM  | 0       | 1       | 1       |
| 1/6/2026 5:00:00 AM  | 0       | 0       | 0       |
| 1/6/2026 5:15:00 AM  | 0       | 0       | 0       |
| 1/6/2026 5:30:00 AM  | 1       | 0       | 1       |
| 1/6/2026 5:45:00 AM  | 1       | 1       | 2       |
| 1/6/2026 6:00:00 AM  | 0       | 0       | 0       |
| 1/6/2026 6:15:00 AM  | 0       | 0       | 0       |
| 1/6/2026 6:30:00 AM  | 2       | 1       | 3       |
| 1/6/2026 6:45:00 AM  | 1       | 2       | 3       |
| 1/6/2026 7:00:00 AM  | 3       | 6       | 9       |
| 1/6/2026 7:15:00 AM  | 3       | 3       | 6       |
| 1/6/2026 7:30:00 AM  | 5       | 2       | 7       |
| 1/6/2026 7:45:00 AM  | 4       | 8       | 12      |
| 1/6/2026 8:00:00 AM  | 4       | 1       | 5       |
| 1/6/2026 8:15:00 AM  | 2       | 1       | 3       |
| 1/6/2026 8:30:00 AM  | 6       | 4       | 10      |
| 1/6/2026 8:45:00 AM  | 5       | 5       | 10      |
| 1/6/2026 9:00:00 AM  | 1       | 3       | 4       |
| 1/6/2026 9:15:00 AM  | 4       | 4       | 8       |
| 1/6/2026 9:30:00 AM  | 2       | 5       | 7       |
| 1/6/2026 9:45:00 AM  | 1       | 2       | 3       |
| 1/6/2026 10:00:00 AM | 5       | 4       | 9       |
| 1/6/2026 10:15:00 AM | 6       | 3       | 9       |
| 1/6/2026 10:30:00 AM | 2       | 4       | 6       |
| 1/6/2026 10:45:00 AM | 0       | 6       | 6       |
| 1/6/2026 11:00:00 AM | 3       | 2       | 5       |
| 1/6/2026 11:15:00 AM | 3       | 3       | 6       |
| 1/6/2026 11:30:00 AM | 2       | 3       | 5       |
| 1/6/2026 11:45:00 AM | 5       | 1       | 6       |
| Total                | 72      | 76      | 148     |
| Percentage           | 48.6%   | 51.4%   |         |
| Peak Hour            | 8:00 AM | 7:00 AM | 7:00 AM |
| Volume               | 17      | 19      | 34      |
| PHF                  | 0.708   | 0.594   | 0.708   |



# All Traffic Data Services

SITE 2\_E - ARROYA LN EAST OF VOLLMER RD

| Time                 | EB      | WB       | Total   |
|----------------------|---------|----------|---------|
| 1/6/2026 12:00:00 PM | 1       | 6        | 7       |
| 1/6/2026 12:15:00 PM | 6       | 4        | 10      |
| 1/6/2026 12:30:00 PM | 5       | 3        | 8       |
| 1/6/2026 12:45:00 PM | 2       | 8        | 10      |
| 1/6/2026 1:00:00 PM  | 2       | 4        | 6       |
| 1/6/2026 1:15:00 PM  | 1       | 2        | 3       |
| 1/6/2026 1:30:00 PM  | 2       | 1        | 3       |
| 1/6/2026 1:45:00 PM  | 3       | 1        | 4       |
| 1/6/2026 2:00:00 PM  | 8       | 3        | 11      |
| 1/6/2026 2:15:00 PM  | 3       | 3        | 6       |
| 1/6/2026 2:30:00 PM  | 1       | 6        | 7       |
| 1/6/2026 2:45:00 PM  | 2       | 3        | 5       |
| 1/6/2026 3:00:00 PM  | 7       | 6        | 13      |
| 1/6/2026 3:15:00 PM  | 2       | 6        | 8       |
| 1/6/2026 3:30:00 PM  | 7       | 4        | 11      |
| 1/6/2026 3:45:00 PM  | 1       | 1        | 2       |
| 1/6/2026 4:00:00 PM  | 5       | 5        | 10      |
| 1/6/2026 4:15:00 PM  | 4       | 0        | 4       |
| 1/6/2026 4:30:00 PM  | 3       | 4        | 7       |
| 1/6/2026 4:45:00 PM  | 4       | 2        | 6       |
| 1/6/2026 5:00:00 PM  | 1       | 4        | 5       |
| 1/6/2026 5:15:00 PM  | 2       | 2        | 4       |
| 1/6/2026 5:30:00 PM  | 0       | 2        | 2       |
| 1/6/2026 5:45:00 PM  | 2       | 0        | 2       |
| 1/6/2026 6:00:00 PM  | 3       | 1        | 4       |
| 1/6/2026 6:15:00 PM  | 2       | 1        | 3       |
| 1/6/2026 6:30:00 PM  | 1       | 0        | 1       |
| 1/6/2026 6:45:00 PM  | 1       | 0        | 1       |
| 1/6/2026 7:00:00 PM  | 1       | 0        | 1       |
| 1/6/2026 7:15:00 PM  | 0       | 1        | 1       |
| 1/6/2026 7:30:00 PM  | 0       | 0        | 0       |
| 1/6/2026 7:45:00 PM  | 1       | 2        | 3       |
| 1/6/2026 8:00:00 PM  | 1       | 0        | 1       |
| 1/6/2026 8:15:00 PM  | 1       | 1        | 2       |
| 1/6/2026 8:30:00 PM  | 0       | 0        | 0       |
| 1/6/2026 8:45:00 PM  | 0       | 0        | 0       |
| 1/6/2026 9:00:00 PM  | 0       | 0        | 0       |
| 1/6/2026 9:15:00 PM  | 1       | 0        | 1       |
| 1/6/2026 9:30:00 PM  | 0       | 0        | 0       |
| 1/6/2026 9:45:00 PM  | 0       | 0        | 0       |
| 1/6/2026 10:00:00 PM | 0       | 1        | 1       |
| 1/6/2026 10:15:00 PM | 1       | 0        | 1       |
| 1/6/2026 10:30:00 PM | 0       | 0        | 0       |
| 1/6/2026 10:45:00 PM | 0       | 0        | 0       |
| 1/6/2026 11:00:00 PM | 0       | 0        | 0       |
| 1/6/2026 11:15:00 PM | 0       | 0        | 0       |
| 1/6/2026 11:30:00 PM | 0       | 0        | 0       |
| 1/6/2026 11:45:00 PM | 0       | 0        | 0       |
| Total                | 87      | 87       | 174     |
| Percentage           | 50.0%   | 50.0%    |         |
| Peak Hour            | 2:45 PM | 12:00 PM | 2:45 PM |
| Volume               | 18      | 21       | 37      |
| PHF                  | 0.643   | 0.656    | 0.712   |
| Grand Total          | 159     | 163      | 322     |
| Percentage           | 49.4%   | 50.6%    |         |



# All Traffic Data Services

SITE 2\_S - VOLLMER RD SOUTH OF ARROYA LN

| Time                 | NB      | SB      | Total   |
|----------------------|---------|---------|---------|
| 1/6/2026             | 0       | 1       | 1       |
| 1/6/2026 12:15:00 AM | 0       | 1       | 1       |
| 1/6/2026 12:30:00 AM | 1       | 1       | 2       |
| 1/6/2026 12:45:00 AM | 1       | 1       | 2       |
| 1/6/2026 1:00:00 AM  | 0       | 2       | 2       |
| 1/6/2026 1:15:00 AM  | 0       | 1       | 1       |
| 1/6/2026 1:30:00 AM  | 1       | 0       | 1       |
| 1/6/2026 1:45:00 AM  | 0       | 0       | 0       |
| 1/6/2026 2:00:00 AM  | 0       | 0       | 0       |
| 1/6/2026 2:15:00 AM  | 0       | 0       | 0       |
| 1/6/2026 2:30:00 AM  | 0       | 0       | 0       |
| 1/6/2026 2:45:00 AM  | 0       | 0       | 0       |
| 1/6/2026 3:00:00 AM  | 0       | 1       | 1       |
| 1/6/2026 3:15:00 AM  | 0       | 0       | 0       |
| 1/6/2026 3:30:00 AM  | 1       | 0       | 1       |
| 1/6/2026 3:45:00 AM  | 0       | 1       | 1       |
| 1/6/2026 4:00:00 AM  | 1       | 2       | 3       |
| 1/6/2026 4:15:00 AM  | 2       | 0       | 2       |
| 1/6/2026 4:30:00 AM  | 2       | 6       | 8       |
| 1/6/2026 4:45:00 AM  | 0       | 3       | 3       |
| 1/6/2026 5:00:00 AM  | 5       | 5       | 10      |
| 1/6/2026 5:15:00 AM  | 2       | 3       | 5       |
| 1/6/2026 5:30:00 AM  | 5       | 9       | 14      |
| 1/6/2026 5:45:00 AM  | 4       | 12      | 16      |
| 1/6/2026 6:00:00 AM  | 3       | 10      | 13      |
| 1/6/2026 6:15:00 AM  | 5       | 19      | 24      |
| 1/6/2026 6:30:00 AM  | 13      | 22      | 35      |
| 1/6/2026 6:45:00 AM  | 15      | 20      | 35      |
| 1/6/2026 7:00:00 AM  | 14      | 34      | 48      |
| 1/6/2026 7:15:00 AM  | 25      | 43      | 68      |
| 1/6/2026 7:30:00 AM  | 29      | 43      | 72      |
| 1/6/2026 7:45:00 AM  | 34      | 46      | 80      |
| 1/6/2026 8:00:00 AM  | 34      | 36      | 70      |
| 1/6/2026 8:15:00 AM  | 36      | 31      | 67      |
| 1/6/2026 8:30:00 AM  | 29      | 34      | 63      |
| 1/6/2026 8:45:00 AM  | 35      | 32      | 67      |
| 1/6/2026 9:00:00 AM  | 17      | 30      | 47      |
| 1/6/2026 9:15:00 AM  | 27      | 32      | 59      |
| 1/6/2026 9:30:00 AM  | 19      | 33      | 52      |
| 1/6/2026 9:45:00 AM  | 15      | 34      | 49      |
| 1/6/2026 10:00:00 AM | 22      | 26      | 48      |
| 1/6/2026 10:15:00 AM | 29      | 28      | 57      |
| 1/6/2026 10:30:00 AM | 24      | 32      | 56      |
| 1/6/2026 10:45:00 AM | 18      | 33      | 51      |
| 1/6/2026 11:00:00 AM | 17      | 18      | 35      |
| 1/6/2026 11:15:00 AM | 27      | 21      | 48      |
| 1/6/2026 11:30:00 AM | 21      | 29      | 50      |
| 1/6/2026 11:45:00 AM | 29      | 17      | 46      |
| Total                | 562     | 752     | 1,314   |
| Percentage           | 42.8%   | 57.2%   |         |
| Peak Hour            | 8:00 AM | 7:15 AM | 7:15 AM |
| Volume               | 134     | 168     | 290     |
| PHF                  | 0.931   | 0.913   | 0.906   |



# All Traffic Data Services

SITE 2\_S - VOLLMER RD SOUTH OF ARROYA LN

| Time                 | NB      | SB      | Total   |
|----------------------|---------|---------|---------|
| 1/6/2026 12:00:00 PM | 29      | 31      | 60      |
| 1/6/2026 12:15:00 PM | 33      | 22      | 55      |
| 1/6/2026 12:30:00 PM | 38      | 33      | 71      |
| 1/6/2026 12:45:00 PM | 24      | 37      | 61      |
| 1/6/2026 1:00:00 PM  | 27      | 22      | 49      |
| 1/6/2026 1:15:00 PM  | 27      | 34      | 61      |
| 1/6/2026 1:30:00 PM  | 32      | 26      | 58      |
| 1/6/2026 1:45:00 PM  | 29      | 21      | 50      |
| 1/6/2026 2:00:00 PM  | 32      | 26      | 58      |
| 1/6/2026 2:15:00 PM  | 35      | 35      | 70      |
| 1/6/2026 2:30:00 PM  | 22      | 39      | 61      |
| 1/6/2026 2:45:00 PM  | 46      | 36      | 82      |
| 1/6/2026 3:00:00 PM  | 42      | 37      | 79      |
| 1/6/2026 3:15:00 PM  | 40      | 30      | 70      |
| 1/6/2026 3:30:00 PM  | 41      | 30      | 71      |
| 1/6/2026 3:45:00 PM  | 45      | 30      | 75      |
| 1/6/2026 4:00:00 PM  | 46      | 38      | 84      |
| 1/6/2026 4:15:00 PM  | 37      | 31      | 68      |
| 1/6/2026 4:30:00 PM  | 35      | 32      | 67      |
| 1/6/2026 4:45:00 PM  | 49      | 33      | 82      |
| 1/6/2026 5:00:00 PM  | 44      | 29      | 73      |
| 1/6/2026 5:15:00 PM  | 50      | 21      | 71      |
| 1/6/2026 5:30:00 PM  | 32      | 22      | 54      |
| 1/6/2026 5:45:00 PM  | 27      | 18      | 45      |
| 1/6/2026 6:00:00 PM  | 31      | 10      | 41      |
| 1/6/2026 6:15:00 PM  | 17      | 18      | 35      |
| 1/6/2026 6:30:00 PM  | 21      | 10      | 31      |
| 1/6/2026 6:45:00 PM  | 23      | 8       | 31      |
| 1/6/2026 7:00:00 PM  | 22      | 15      | 37      |
| 1/6/2026 7:15:00 PM  | 9       | 12      | 21      |
| 1/6/2026 7:30:00 PM  | 12      | 15      | 27      |
| 1/6/2026 7:45:00 PM  | 17      | 5       | 22      |
| 1/6/2026 8:00:00 PM  | 7       | 6       | 13      |
| 1/6/2026 8:15:00 PM  | 13      | 11      | 24      |
| 1/6/2026 8:30:00 PM  | 7       | 3       | 10      |
| 1/6/2026 8:45:00 PM  | 11      | 2       | 13      |
| 1/6/2026 9:00:00 PM  | 7       | 2       | 9       |
| 1/6/2026 9:15:00 PM  | 10      | 6       | 16      |
| 1/6/2026 9:30:00 PM  | 3       | 5       | 8       |
| 1/6/2026 9:45:00 PM  | 5       | 3       | 8       |
| 1/6/2026 10:00:00 PM | 5       | 3       | 8       |
| 1/6/2026 10:15:00 PM | 8       | 2       | 10      |
| 1/6/2026 10:30:00 PM | 5       | 2       | 7       |
| 1/6/2026 10:45:00 PM | 1       | 0       | 1       |
| 1/6/2026 11:00:00 PM | 2       | 2       | 4       |
| 1/6/2026 11:15:00 PM | 0       | 3       | 3       |
| 1/6/2026 11:30:00 PM | 1       | 2       | 3       |
| 1/6/2026 11:45:00 PM | 1       | 1       | 2       |
| Total                | 1,100   | 859     | 1,959   |
| Percentage           | 56.2%   | 43.8%   |         |
| Peak Hour            | 4:30 PM | 2:15 PM | 2:45 PM |
| Volume               | 178     | 147     | 302     |
| PHF                  | 0.890   | 0.942   | 0.921   |
| Grand Total          | 1,662   | 1,611   | 3,273   |
| Percentage           | 50.8%   | 49.2%   |         |

## **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) | <b><u>LOS by Volume-to-Capacity Ratio<sup>a</sup></u></b> |                            |
|--------------------------|-----------------------------------------------------------|----------------------------|
|                          | <b><u>v/c ≤ 1.0</u></b>                                   | <b><u>v/c &gt; 1.0</u></b> |
| ≤ 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**

Intersection

|                           |      |
|---------------------------|------|
| Intersection Delay, s/veh | 11.8 |
| Intersection LOS          | B    |

| Movement                   | EBL  | EBT                                                                               | EBR  | WBL  | WBT                                                                               | WBR  | NBL  | NBT                                                                                 | NBR  | SBL  | SBT                                                                                 | SBR  |
|----------------------------|------|-----------------------------------------------------------------------------------|------|------|-----------------------------------------------------------------------------------|------|------|-------------------------------------------------------------------------------------|------|------|-------------------------------------------------------------------------------------|------|
| Lane Configurations        |      |  |      |      |  |      |      |  |      |      |  |      |
| Traffic Vol, veh/h         | 3    | 58                                                                                | 11   | 95   | 254                                                                               | 69   | 17   | 52                                                                                  | 45   | 17   | 54                                                                                  | 12   |
| Future Vol, veh/h          | 3    | 58                                                                                | 11   | 95   | 254                                                                               | 69   | 17   | 52                                                                                  | 45   | 17   | 54                                                                                  | 12   |
| Peak Hour Factor           | 0.92 | 0.92                                                                              | 0.92 | 0.92 | 0.92                                                                              | 0.92 | 0.92 | 0.92                                                                                | 0.92 | 0.92 | 0.92                                                                                | 0.92 |
| Heavy Vehicles, %          | 2    | 2                                                                                 | 2    | 2    | 2                                                                                 | 2    | 2    | 2                                                                                   | 2    | 2    | 2                                                                                   | 2    |
| Mvmt Flow                  | 3    | 63                                                                                | 12   | 103  | 276                                                                               | 75   | 18   | 57                                                                                  | 49   | 18   | 59                                                                                  | 13   |
| Number of Lanes            | 0    | 1                                                                                 | 0    | 0    | 1                                                                                 | 0    | 0    | 1                                                                                   | 0    | 0    | 1                                                                                   | 0    |
| Approach                   | EB   |                                                                                   |      | WB   |                                                                                   |      | NB   |                                                                                     |      | SB   |                                                                                     |      |
| Opposing Approach          | WB   |                                                                                   |      | EB   |                                                                                   |      | SB   |                                                                                     |      | NB   |                                                                                     |      |
| Opposing Lanes             | 1    |                                                                                   |      | 1    |                                                                                   |      | 1    |                                                                                     |      | 1    |                                                                                     |      |
| Conflicting Approach Left  | SB   |                                                                                   |      | NB   |                                                                                   |      | EB   |                                                                                     |      | WB   |                                                                                     |      |
| Conflicting Lanes Left     | 1    |                                                                                   |      | 1    |                                                                                   |      | 1    |                                                                                     |      | 1    |                                                                                     |      |
| Conflicting Approach Right | NB   |                                                                                   |      | SB   |                                                                                   |      | WB   |                                                                                     |      | EB   |                                                                                     |      |
| Conflicting Lanes Right    | 1    |                                                                                   |      | 1    |                                                                                   |      | 1    |                                                                                     |      | 1    |                                                                                     |      |
| HCM Control Delay, s/veh   | 8.6  |                                                                                   |      | 13.5 |                                                                                   |      | 9.3  |                                                                                     |      | 9.2  |                                                                                     |      |
| HCM LOS                    | A    |                                                                                   |      | B    |                                                                                   |      | A    |                                                                                     |      | A    |                                                                                     |      |

| Lane                     | NBLn1 | EBLn1 | WBLn1 | SBLn1 |
|--------------------------|-------|-------|-------|-------|
| Vol Left, %              | 15%   | 4%    | 23%   | 20%   |
| Vol Thru, %              | 46%   | 81%   | 61%   | 65%   |
| Vol Right, %             | 39%   | 15%   | 17%   | 14%   |
| Sign Control             | Stop  | Stop  | Stop  | Stop  |
| Traffic Vol by Lane      | 114   | 72    | 418   | 83    |
| LT Vol                   | 17    | 3     | 95    | 17    |
| Through Vol              | 52    | 58    | 254   | 54    |
| RT Vol                   | 45    | 11    | 69    | 12    |
| Lane Flow Rate           | 124   | 78    | 454   | 90    |
| Geometry Grp             | 1     | 1     | 1     | 1     |
| Degree of Util (X)       | 0.175 | 0.107 | 0.571 | 0.133 |
| Departure Headway (Hd)   | 5.093 | 4.926 | 4.523 | 5.302 |
| Convergence, Y/N         | Yes   | Yes   | Yes   | Yes   |
| Cap                      | 699   | 721   | 795   | 670   |
| Service Time             | 3.169 | 3.003 | 2.574 | 3.383 |
| HCM Lane V/C Ratio       | 0.177 | 0.108 | 0.571 | 0.134 |
| HCM Control Delay, s/veh | 9.3   | 8.6   | 13.5  | 9.2   |
| HCM Lane LOS             | A     | A     | B     | A     |
| HCM 95th-tile Q          | 0.6   | 0.4   | 3.7   | 0.5   |

| Intersection             |                                                                                   |          |                                                                                   |        |       |                                                                                   |
|--------------------------|-----------------------------------------------------------------------------------|----------|-----------------------------------------------------------------------------------|--------|-------|-----------------------------------------------------------------------------------|
| Int Delay, s/veh         | 0.6                                                                               |          |                                                                                   |        |       |                                                                                   |
| Movement                 | WBL                                                                               | WBR      | NBT                                                                               | NBR    | SBL   | SBT                                                                               |
| Lane Configurations      |  |          |  |        |       |  |
| Traffic Vol, veh/h       | 7                                                                                 | 7        | 111                                                                               | 11     | 5     | 161                                                                               |
| Future Vol, veh/h        | 7                                                                                 | 7        | 111                                                                               | 11     | 5     | 161                                                                               |
| Conflicting Peds, #/hr   | 0                                                                                 | 0        | 0                                                                                 | 0      | 0     | 0                                                                                 |
| Sign Control             | Stop                                                                              | Stop     | Free                                                                              | Free   | Free  | Free                                                                              |
| RT Channelized           | -                                                                                 | None     | -                                                                                 | None   | -     | None                                                                              |
| Storage Length           | 0                                                                                 | -        | -                                                                                 | -      | -     | -                                                                                 |
| Veh in Median Storage, # | 0                                                                                 | -        | 0                                                                                 | -      | -     | 0                                                                                 |
| Grade, %                 | 0                                                                                 | -        | 0                                                                                 | -      | -     | 0                                                                                 |
| Peak Hour Factor         | 92                                                                                | 92       | 92                                                                                | 92     | 92    | 92                                                                                |
| Heavy Vehicles, %        | 2                                                                                 | 2        | 2                                                                                 | 2      | 2     | 2                                                                                 |
| Mvmt Flow                | 8                                                                                 | 8        | 121                                                                               | 12     | 5     | 175                                                                               |
|                          |                                                                                   |          |                                                                                   |        |       |                                                                                   |
| Major/Minor              | Minor1                                                                            | Major1   |                                                                                   | Major2 |       |                                                                                   |
| Conflicting Flow All     | 313                                                                               | 127      | 0                                                                                 | 0      | 133   | 0                                                                                 |
| Stage 1                  | 127                                                                               | -        | -                                                                                 | -      | -     | -                                                                                 |
| Stage 2                  | 186                                                                               | -        | -                                                                                 | -      | -     | -                                                                                 |
| Critical Hdwy            | 6.42                                                                              | 6.22     | -                                                                                 | -      | 4.12  | -                                                                                 |
| Critical Hdwy Stg 1      | 5.42                                                                              | -        | -                                                                                 | -      | -     | -                                                                                 |
| Critical Hdwy Stg 2      | 5.42                                                                              | -        | -                                                                                 | -      | -     | -                                                                                 |
| Follow-up Hdwy           | 3.518                                                                             | 3.318    | -                                                                                 | -      | 2.218 | -                                                                                 |
| Pot Cap-1 Maneuver       | 680                                                                               | 924      | -                                                                                 | -      | 1452  | -                                                                                 |
| Stage 1                  | 899                                                                               | -        | -                                                                                 | -      | -     | -                                                                                 |
| Stage 2                  | 846                                                                               | -        | -                                                                                 | -      | -     | -                                                                                 |
| Platoon blocked, %       |                                                                                   |          | -                                                                                 | -      |       | -                                                                                 |
| Mov Cap-1 Maneuver       | 677                                                                               | 924      | -                                                                                 | -      | 1452  | -                                                                                 |
| Mov Cap-2 Maneuver       | 677                                                                               | -        | -                                                                                 | -      | -     | -                                                                                 |
| Stage 1                  | 899                                                                               | -        | -                                                                                 | -      | -     | -                                                                                 |
| Stage 2                  | 842                                                                               | -        | -                                                                                 | -      | -     | -                                                                                 |
|                          |                                                                                   |          |                                                                                   |        |       |                                                                                   |
|                          |                                                                                   |          |                                                                                   |        |       |                                                                                   |
| Approach                 | WB                                                                                | NB       |                                                                                   | SB     |       |                                                                                   |
| HCM Ctrl Dly, s/v        | 9.7                                                                               | 0        |                                                                                   | 0.23   |       |                                                                                   |
| HCM LOS                  | A                                                                                 |          |                                                                                   |        |       |                                                                                   |
|                          |                                                                                   |          |                                                                                   |        |       |                                                                                   |
|                          |                                                                                   |          |                                                                                   |        |       |                                                                                   |
| Minor Lane/Major Mvmt    | NBT                                                                               | NBRWBLn1 |                                                                                   | SBL    | SBT   |                                                                                   |
| Capacity (veh/h)         | -                                                                                 | -        | 782                                                                               | 54     | -     |                                                                                   |
| HCM Lane V/C Ratio       | -                                                                                 | -        | 0.019                                                                             | 0.004  | -     |                                                                                   |
| HCM Ctrl Dly (s/v)       | -                                                                                 | -        | 9.7                                                                               | 7.5    | 0     |                                                                                   |
| HCM Lane LOS             | -                                                                                 | -        | A                                                                                 | A      | A     |                                                                                   |
| HCM 95th %tile Q(veh)    | -                                                                                 | -        | 0.1                                                                               | 0      | -     |                                                                                   |

Intersection

|                           |      |
|---------------------------|------|
| Intersection Delay, s/veh | 10.8 |
| Intersection LOS          | B    |

| Movement            | EBL  | EBT                                                                               | EBR  | WBL  | WBT                                                                               | WBR  | NBL  | NBT                                                                                 | NBR  | SBL  | SBT                                                                                 | SBR  |
|---------------------|------|-----------------------------------------------------------------------------------|------|------|-----------------------------------------------------------------------------------|------|------|-------------------------------------------------------------------------------------|------|------|-------------------------------------------------------------------------------------|------|
| Lane Configurations |      |  |      |      |  |      |      |  |      |      |  |      |
| Traffic Vol, veh/h  | 14   | 225                                                                               | 15   | 44   | 116                                                                               | 34   | 12   | 79                                                                                  | 72   | 68   | 73                                                                                  | 11   |
| Future Vol, veh/h   | 14   | 225                                                                               | 15   | 44   | 116                                                                               | 34   | 12   | 79                                                                                  | 72   | 68   | 73                                                                                  | 11   |
| Peak Hour Factor    | 0.92 | 0.92                                                                              | 0.92 | 0.92 | 0.92                                                                              | 0.92 | 0.92 | 0.92                                                                                | 0.92 | 0.92 | 0.92                                                                                | 0.92 |
| Heavy Vehicles, %   | 2    | 2                                                                                 | 2    | 2    | 2                                                                                 | 2    | 2    | 2                                                                                   | 2    | 2    | 2                                                                                   | 2    |
| Mvmt Flow           | 15   | 245                                                                               | 16   | 48   | 126                                                                               | 37   | 13   | 86                                                                                  | 78   | 74   | 79                                                                                  | 12   |
| Number of Lanes     | 0    | 1                                                                                 | 0    | 0    | 1                                                                                 | 0    | 0    | 1                                                                                   | 0    | 0    | 1                                                                                   | 0    |

| Approach                   | EB   | WB   | NB   | SB   |
|----------------------------|------|------|------|------|
| Opposing Approach          | WB   | EB   | SB   | NB   |
| Opposing Lanes             | 1    | 1    | 1    | 1    |
| Conflicting Approach Left  | SB   | NB   | EB   | WB   |
| Conflicting Lanes Left     | 1    | 1    | 1    | 1    |
| Conflicting Approach Right | NB   | SB   | WB   | EB   |
| Conflicting Lanes Right    | 1    | 1    | 1    | 1    |
| HCM Control Delay, s/veh   | 11.6 | 10.6 | 10.1 | 10.5 |
| HCM LOS                    | B    | B    | B    | B    |

| Lane                     | NBLn1 | EBLn1 | WBLn1 | SBLn1 |
|--------------------------|-------|-------|-------|-------|
| Vol Left, %              | 7%    | 6%    | 23%   | 45%   |
| Vol Thru, %              | 48%   | 89%   | 60%   | 48%   |
| Vol Right, %             | 44%   | 6%    | 18%   | 7%    |
| Sign Control             | Stop  | Stop  | Stop  | Stop  |
| Traffic Vol by Lane      | 163   | 254   | 194   | 152   |
| LT Vol                   | 12    | 14    | 44    | 68    |
| Through Vol              | 79    | 225   | 116   | 73    |
| RT Vol                   | 72    | 15    | 34    | 11    |
| Lane Flow Rate           | 177   | 276   | 211   | 165   |
| Geometry Grp             | 1     | 1     | 1     | 1     |
| Degree of Util (X)       | 0.259 | 0.397 | 0.307 | 0.255 |
| Departure Headway (Hd)   | 5.26  | 5.182 | 5.245 | 5.565 |
| Convergence, Y/N         | Yes   | Yes   | Yes   | Yes   |
| Cap                      | 682   | 696   | 685   | 644   |
| Service Time             | 3.297 | 3.215 | 3.28  | 3.602 |
| HCM Lane V/C Ratio       | 0.26  | 0.397 | 0.308 | 0.256 |
| HCM Control Delay, s/veh | 10.1  | 11.6  | 10.6  | 10.5  |
| HCM Lane LOS             | B     | B     | B     | B     |
| HCM 95th-tile Q          | 1     | 1.9   | 1.3   | 1     |

| Intersection             |                                                                                   |          |                                                                                   |        |       |                                                                                   |
|--------------------------|-----------------------------------------------------------------------------------|----------|-----------------------------------------------------------------------------------|--------|-------|-----------------------------------------------------------------------------------|
| Int Delay, s/veh         | 0.8                                                                               |          |                                                                                   |        |       |                                                                                   |
| Movement                 | WBL                                                                               | WBR      | NBT                                                                               | NBR    | SBL   | SBT                                                                               |
| Lane Configurations      |  |          |  |        |       |  |
| Traffic Vol, veh/h       | 9                                                                                 | 7        | 163                                                                               | 4      | 12    | 125                                                                               |
| Future Vol, veh/h        | 9                                                                                 | 7        | 163                                                                               | 4      | 12    | 125                                                                               |
| Conflicting Peds, #/hr   | 0                                                                                 | 0        | 0                                                                                 | 0      | 0     | 0                                                                                 |
| Sign Control             | Stop                                                                              | Stop     | Free                                                                              | Free   | Free  | Free                                                                              |
| RT Channelized           | -                                                                                 | None     | -                                                                                 | None   | -     | None                                                                              |
| Storage Length           | 0                                                                                 | -        | -                                                                                 | -      | -     | -                                                                                 |
| Veh in Median Storage, # | 0                                                                                 | -        | 0                                                                                 | -      | -     | 0                                                                                 |
| Grade, %                 | 0                                                                                 | -        | 0                                                                                 | -      | -     | 0                                                                                 |
| Peak Hour Factor         | 92                                                                                | 92       | 92                                                                                | 92     | 92    | 92                                                                                |
| Heavy Vehicles, %        | 2                                                                                 | 2        | 2                                                                                 | 2      | 2     | 2                                                                                 |
| Mvmt Flow                | 10                                                                                | 8        | 177                                                                               | 4      | 13    | 136                                                                               |
|                          |                                                                                   |          |                                                                                   |        |       |                                                                                   |
| Major/Minor              | Minor1                                                                            | Major1   |                                                                                   | Major2 |       |                                                                                   |
| Conflicting Flow All     | 341                                                                               | 179      | 0                                                                                 | 0      | 182   | 0                                                                                 |
| Stage 1                  | 179                                                                               | -        | -                                                                                 | -      | -     | -                                                                                 |
| Stage 2                  | 162                                                                               | -        | -                                                                                 | -      | -     | -                                                                                 |
| Critical Hdwy            | 6.42                                                                              | 6.22     | -                                                                                 | -      | 4.12  | -                                                                                 |
| Critical Hdwy Stg 1      | 5.42                                                                              | -        | -                                                                                 | -      | -     | -                                                                                 |
| Critical Hdwy Stg 2      | 5.42                                                                              | -        | -                                                                                 | -      | -     | -                                                                                 |
| Follow-up Hdwy           | 3.518                                                                             | 3.318    | -                                                                                 | -      | 2.218 | -                                                                                 |
| Pot Cap-1 Maneuver       | 655                                                                               | 863      | -                                                                                 | -      | 1394  | -                                                                                 |
| Stage 1                  | 852                                                                               | -        | -                                                                                 | -      | -     | -                                                                                 |
| Stage 2                  | 867                                                                               | -        | -                                                                                 | -      | -     | -                                                                                 |
| Platoon blocked, %       |                                                                                   |          | -                                                                                 | -      |       | -                                                                                 |
| Mov Cap-1 Maneuver       | 648                                                                               | 863      | -                                                                                 | -      | 1394  | -                                                                                 |
| Mov Cap-2 Maneuver       | 648                                                                               | -        | -                                                                                 | -      | -     | -                                                                                 |
| Stage 1                  | 852                                                                               | -        | -                                                                                 | -      | -     | -                                                                                 |
| Stage 2                  | 858                                                                               | -        | -                                                                                 | -      | -     | -                                                                                 |
|                          |                                                                                   |          |                                                                                   |        |       |                                                                                   |
|                          |                                                                                   |          |                                                                                   |        |       |                                                                                   |
| Approach                 | WB                                                                                | NB       |                                                                                   | SB     |       |                                                                                   |
| HCM Ctrl Dly, s/v        | 10.07                                                                             | 0        |                                                                                   | 0.67   |       |                                                                                   |
| HCM LOS                  | B                                                                                 |          |                                                                                   |        |       |                                                                                   |
|                          |                                                                                   |          |                                                                                   |        |       |                                                                                   |
|                          |                                                                                   |          |                                                                                   |        |       |                                                                                   |
| Minor Lane/Major Mvmt    | NBT                                                                               | NBRWBLn1 |                                                                                   | SBL    | SBT   |                                                                                   |
| Capacity (veh/h)         | -                                                                                 | -        | 728                                                                               | 158    | -     |                                                                                   |
| HCM Lane V/C Ratio       | -                                                                                 | -        | 0.024                                                                             | 0.009  | -     |                                                                                   |
| HCM Ctrl Dly (s/v)       | -                                                                                 | -        | 10.1                                                                              | 7.6    | 0     |                                                                                   |
| HCM Lane LOS             | -                                                                                 | -        | B                                                                                 | A      | A     |                                                                                   |
| HCM 95th %tile Q(veh)    | -                                                                                 | -        | 0.1                                                                               | 0      | -     |                                                                                   |

Intersection

|                           |      |
|---------------------------|------|
| Intersection Delay, s/veh | 12.2 |
| Intersection LOS          | B    |

| Movement                   | EBL  | EBT                                                                               | EBR  | WBL  | WBT                                                                               | WBR  | NBL  | NBT                                                                                 | NBR  | SBL  | SBT                                                                                 | SBR  |
|----------------------------|------|-----------------------------------------------------------------------------------|------|------|-----------------------------------------------------------------------------------|------|------|-------------------------------------------------------------------------------------|------|------|-------------------------------------------------------------------------------------|------|
| Lane Configurations        |      |  |      |      |  |      |      |  |      |      |  |      |
| Traffic Vol, veh/h         | 3    | 60                                                                                | 11   | 99   | 264                                                                               | 72   | 18   | 54                                                                                  | 47   | 18   | 56                                                                                  | 12   |
| Future Vol, veh/h          | 3    | 60                                                                                | 11   | 99   | 264                                                                               | 72   | 18   | 54                                                                                  | 47   | 18   | 56                                                                                  | 12   |
| Peak Hour Factor           | 0.92 | 0.92                                                                              | 0.92 | 0.92 | 0.92                                                                              | 0.92 | 0.92 | 0.92                                                                                | 0.92 | 0.92 | 0.92                                                                                | 0.92 |
| Heavy Vehicles, %          | 2    | 2                                                                                 | 2    | 2    | 2                                                                                 | 2    | 2    | 2                                                                                   | 2    | 2    | 2                                                                                   | 2    |
| Mvmt Flow                  | 3    | 65                                                                                | 12   | 108  | 287                                                                               | 78   | 20   | 59                                                                                  | 51   | 20   | 61                                                                                  | 13   |
| Number of Lanes            | 0    | 1                                                                                 | 0    | 0    | 1                                                                                 | 0    | 0    | 1                                                                                   | 0    | 0    | 1                                                                                   | 0    |
| Approach                   | EB   |                                                                                   |      | WB   |                                                                                   |      | NB   |                                                                                     |      | SB   |                                                                                     |      |
| Opposing Approach          | WB   |                                                                                   |      | EB   |                                                                                   |      | SB   |                                                                                     |      | NB   |                                                                                     |      |
| Opposing Lanes             | 1    |                                                                                   |      | 1    |                                                                                   |      | 1    |                                                                                     |      | 1    |                                                                                     |      |
| Conflicting Approach Left  | SB   |                                                                                   |      | NB   |                                                                                   |      | EB   |                                                                                     |      | WB   |                                                                                     |      |
| Conflicting Lanes Left     | 1    |                                                                                   |      | 1    |                                                                                   |      | 1    |                                                                                     |      | 1    |                                                                                     |      |
| Conflicting Approach Right | NB   |                                                                                   |      | SB   |                                                                                   |      | WB   |                                                                                     |      | EB   |                                                                                     |      |
| Conflicting Lanes Right    | 1    |                                                                                   |      | 1    |                                                                                   |      | 1    |                                                                                     |      | 1    |                                                                                     |      |
| HCM Control Delay, s/veh   | 8.7  |                                                                                   |      | 14.2 |                                                                                   |      | 9.4  |                                                                                     |      | 9.3  |                                                                                     |      |
| HCM LOS                    | A    |                                                                                   |      | B    |                                                                                   |      | A    |                                                                                     |      | A    |                                                                                     |      |

| Lane                     | NBLn1 | EBLn1 | WBLn1 | SBLn1 |
|--------------------------|-------|-------|-------|-------|
| Vol Left, %              | 15%   | 4%    | 23%   | 21%   |
| Vol Thru, %              | 45%   | 81%   | 61%   | 65%   |
| Vol Right, %             | 39%   | 15%   | 17%   | 14%   |
| Sign Control             | Stop  | Stop  | Stop  | Stop  |
| Traffic Vol by Lane      | 119   | 74    | 435   | 86    |
| LT Vol                   | 18    | 3     | 99    | 18    |
| Through Vol              | 54    | 60    | 264   | 56    |
| RT Vol                   | 47    | 11    | 72    | 12    |
| Lane Flow Rate           | 129   | 80    | 473   | 93    |
| Geometry Grp             | 1     | 1     | 1     | 1     |
| Degree of Util (X)       | 0.185 | 0.111 | 0.598 | 0.139 |
| Departure Headway (Hd)   | 5.152 | 4.984 | 4.554 | 5.369 |
| Convergence, Y/N         | Yes   | Yes   | Yes   | Yes   |
| Cap                      | 689   | 712   | 790   | 661   |
| Service Time             | 3.236 | 3.067 | 2.608 | 3.459 |
| HCM Lane V/C Ratio       | 0.187 | 0.112 | 0.599 | 0.141 |
| HCM Control Delay, s/veh | 9.4   | 8.7   | 14.2  | 9.3   |
| HCM Lane LOS             | A     | A     | B     | A     |
| HCM 95th-tile Q          | 0.7   | 0.4   | 4     | 0.5   |

| Intersection             |                                                                                   |          |                                                                                   |        |       |                                                                                   |
|--------------------------|-----------------------------------------------------------------------------------|----------|-----------------------------------------------------------------------------------|--------|-------|-----------------------------------------------------------------------------------|
| Int Delay, s/veh         | 0.7                                                                               |          |                                                                                   |        |       |                                                                                   |
| Movement                 | WBL                                                                               | WBR      | NBT                                                                               | NBR    | SBL   | SBT                                                                               |
| Lane Configurations      |  |          |  |        |       |  |
| Traffic Vol, veh/h       | 10                                                                                | 7        | 115                                                                               | 12     | 5     | 167                                                                               |
| Future Vol, veh/h        | 10                                                                                | 7        | 115                                                                               | 12     | 5     | 167                                                                               |
| Conflicting Peds, #/hr   | 0                                                                                 | 0        | 0                                                                                 | 0      | 0     | 0                                                                                 |
| Sign Control             | Stop                                                                              | Stop     | Free                                                                              | Free   | Free  | Free                                                                              |
| RT Channelized           | -                                                                                 | None     | -                                                                                 | None   | -     | None                                                                              |
| Storage Length           | 0                                                                                 | -        | -                                                                                 | -      | -     | -                                                                                 |
| Veh in Median Storage, # | 0                                                                                 | -        | 0                                                                                 | -      | -     | 0                                                                                 |
| Grade, %                 | 0                                                                                 | -        | 0                                                                                 | -      | -     | 0                                                                                 |
| Peak Hour Factor         | 92                                                                                | 92       | 92                                                                                | 92     | 92    | 92                                                                                |
| Heavy Vehicles, %        | 2                                                                                 | 2        | 2                                                                                 | 2      | 2     | 2                                                                                 |
| Mvmt Flow                | 11                                                                                | 8        | 125                                                                               | 13     | 5     | 182                                                                               |
|                          |                                                                                   |          |                                                                                   |        |       |                                                                                   |
| Major/Minor              | Minor1                                                                            | Major1   |                                                                                   | Major2 |       |                                                                                   |
| Conflicting Flow All     | 324                                                                               | 132      | 0                                                                                 | 0      | 138   | 0                                                                                 |
| Stage 1                  | 132                                                                               | -        | -                                                                                 | -      | -     | -                                                                                 |
| Stage 2                  | 192                                                                               | -        | -                                                                                 | -      | -     | -                                                                                 |
| Critical Hdwy            | 6.42                                                                              | 6.22     | -                                                                                 | -      | 4.12  | -                                                                                 |
| Critical Hdwy Stg 1      | 5.42                                                                              | -        | -                                                                                 | -      | -     | -                                                                                 |
| Critical Hdwy Stg 2      | 5.42                                                                              | -        | -                                                                                 | -      | -     | -                                                                                 |
| Follow-up Hdwy           | 3.518                                                                             | 3.318    | -                                                                                 | -      | 2.218 | -                                                                                 |
| Pot Cap-1 Maneuver       | 670                                                                               | 918      | -                                                                                 | -      | 1446  | -                                                                                 |
| Stage 1                  | 895                                                                               | -        | -                                                                                 | -      | -     | -                                                                                 |
| Stage 2                  | 840                                                                               | -        | -                                                                                 | -      | -     | -                                                                                 |
| Platoon blocked, %       |                                                                                   |          | -                                                                                 | -      |       | -                                                                                 |
| Mov Cap-1 Maneuver       | 667                                                                               | 918      | -                                                                                 | -      | 1446  | -                                                                                 |
| Mov Cap-2 Maneuver       | 667                                                                               | -        | -                                                                                 | -      | -     | -                                                                                 |
| Stage 1                  | 895                                                                               | -        | -                                                                                 | -      | -     | -                                                                                 |
| Stage 2                  | 837                                                                               | -        | -                                                                                 | -      | -     | -                                                                                 |
|                          |                                                                                   |          |                                                                                   |        |       |                                                                                   |
|                          |                                                                                   |          |                                                                                   |        |       |                                                                                   |
| Approach                 | WB                                                                                | NB       |                                                                                   | SB     |       |                                                                                   |
| HCM Ctrl Dly, s/v        | 9.91                                                                              | 0        |                                                                                   | 0.22   |       |                                                                                   |
| HCM LOS                  | A                                                                                 |          |                                                                                   |        |       |                                                                                   |
|                          |                                                                                   |          |                                                                                   |        |       |                                                                                   |
|                          |                                                                                   |          |                                                                                   |        |       |                                                                                   |
| Minor Lane/Major Mvmt    | NBT                                                                               | NBRWBLn1 |                                                                                   | SBL    | SBT   |                                                                                   |
| Capacity (veh/h)         | -                                                                                 | -        | 752                                                                               | 52     | -     |                                                                                   |
| HCM Lane V/C Ratio       | -                                                                                 | -        | 0.025                                                                             | 0.004  | -     |                                                                                   |
| HCM Ctrl Dly (s/v)       | -                                                                                 | -        | 9.9                                                                               | 7.5    | 0     |                                                                                   |
| HCM Lane LOS             | -                                                                                 | -        | A                                                                                 | A      | A     |                                                                                   |
| HCM 95th %tile Q(veh)    | -                                                                                 | -        | 0.1                                                                               | 0      | -     |                                                                                   |

Intersection

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

| Movement            | EBL  | EBT                                                                               | EBR  | WBL  | WBT                                                                               | WBR  | NBL  | NBT                                                                                 | NBR  | SBL  | SBT                                                                                 | SBR  |
|---------------------|------|-----------------------------------------------------------------------------------|------|------|-----------------------------------------------------------------------------------|------|------|-------------------------------------------------------------------------------------|------|------|-------------------------------------------------------------------------------------|------|
| Lane Configurations |      |  |      |      |  |      |      |  |      |      |  |      |
| Traffic Vol, veh/h  | 15   | 234                                                                               | 16   | 46   | 121                                                                               | 35   | 12   | 82                                                                                  | 75   | 71   | 76                                                                                  | 11   |
| Future Vol, veh/h   | 15   | 234                                                                               | 16   | 46   | 121                                                                               | 35   | 12   | 82                                                                                  | 75   | 71   | 76                                                                                  | 11   |
| Peak Hour Factor    | 0.92 | 0.92                                                                              | 0.92 | 0.92 | 0.92                                                                              | 0.92 | 0.92 | 0.92                                                                                | 0.92 | 0.92 | 0.92                                                                                | 0.92 |
| Heavy Vehicles, %   | 2    | 2                                                                                 | 2    | 2    | 2                                                                                 | 2    | 2    | 2                                                                                   | 2    | 2    | 2                                                                                   | 2    |
| Mvmt Flow           | 16   | 254                                                                               | 17   | 50   | 132                                                                               | 38   | 13   | 89                                                                                  | 82   | 77   | 83                                                                                  | 12   |
| Number of Lanes     | 0    | 1                                                                                 | 0    | 0    | 1                                                                                 | 0    | 0    | 1                                                                                   | 0    | 0    | 1                                                                                   | 0    |

| Approach                   | EB   | WB   | NB   | SB   |
|----------------------------|------|------|------|------|
| Opposing Approach          | WB   | EB   | SB   | NB   |
| Opposing Lanes             | 1    | 1    | 1    | 1    |
| Conflicting Approach Left  | SB   | NB   | EB   | WB   |
| Conflicting Lanes Left     | 1    | 1    | 1    | 1    |
| Conflicting Approach Right | NB   | SB   | WB   | EB   |
| Conflicting Lanes Right    | 1    | 1    | 1    | 1    |
| HCM Control Delay, s/veh   | 12.1 | 10.9 | 10.4 | 10.8 |
| HCM LOS                    | B    | B    | B    | B    |

| Lane                     | NBLn1 | EBLn1 | WBLn1 | SBLn1 |
|--------------------------|-------|-------|-------|-------|
| Vol Left, %              | 7%    | 6%    | 23%   | 45%   |
| Vol Thru, %              | 49%   | 88%   | 60%   | 48%   |
| Vol Right, %             | 44%   | 6%    | 17%   | 7%    |
| Sign Control             | Stop  | Stop  | Stop  | Stop  |
| Traffic Vol by Lane      | 169   | 265   | 202   | 158   |
| LT Vol                   | 12    | 15    | 46    | 71    |
| Through Vol              | 82    | 234   | 121   | 76    |
| RT Vol                   | 75    | 16    | 35    | 11    |
| Lane Flow Rate           | 184   | 288   | 220   | 172   |
| Geometry Grp             | 1     | 1     | 1     | 1     |
| Degree of Util (X)       | 0.273 | 0.42  | 0.325 | 0.27  |
| Departure Headway (Hd)   | 5.347 | 5.253 | 5.325 | 5.654 |
| Convergence, Y/N         | Yes   | Yes   | Yes   | Yes   |
| Cap                      | 670   | 686   | 674   | 634   |
| Service Time             | 3.392 | 3.293 | 3.368 | 3.701 |
| HCM Lane V/C Ratio       | 0.275 | 0.42  | 0.326 | 0.271 |
| HCM Control Delay, s/veh | 10.4  | 12.1  | 10.9  | 10.8  |
| HCM Lane LOS             | B     | B     | B     | B     |
| HCM 95th-tile Q          | 1.1   | 2.1   | 1.4   | 1.1   |

| Intersection             |                                                                                   |          |                                                                                   |       |       |                                                                                   |
|--------------------------|-----------------------------------------------------------------------------------|----------|-----------------------------------------------------------------------------------|-------|-------|-----------------------------------------------------------------------------------|
| Int Delay, s/veh         | 0.7                                                                               |          |                                                                                   |       |       |                                                                                   |
| Movement                 | WBL                                                                               | WBR      | NBT                                                                               | NBR   | SBL   | SBT                                                                               |
| Lane Configurations      |  |          |  |       |       |  |
| Traffic Vol, veh/h       | 11                                                                                | 2        | 170                                                                               | 7     | 12    | 130                                                                               |
| Future Vol, veh/h        | 11                                                                                | 2        | 170                                                                               | 7     | 12    | 130                                                                               |
| Conflicting Peds, #/hr   | 0                                                                                 | 0        | 0                                                                                 | 0     | 0     | 0                                                                                 |
| Sign Control             | Stop                                                                              | Stop     | Free                                                                              | Free  | Free  | Free                                                                              |
| RT Channelized           | -                                                                                 | None     | -                                                                                 | None  | -     | None                                                                              |
| Storage Length           | 0                                                                                 | -        | -                                                                                 | -     | -     | -                                                                                 |
| Veh in Median Storage, # | 0                                                                                 | -        | 0                                                                                 | -     | -     | 0                                                                                 |
| Grade, %                 | 0                                                                                 | -        | 0                                                                                 | -     | -     | 0                                                                                 |
| Peak Hour Factor         | 92                                                                                | 92       | 92                                                                                | 92    | 92    | 92                                                                                |
| Heavy Vehicles, %        | 2                                                                                 | 2        | 2                                                                                 | 2     | 2     | 2                                                                                 |
| Mvmt Flow                | 12                                                                                | 2        | 185                                                                               | 8     | 13    | 141                                                                               |
| Major/Minor              | Minor1                                                                            | Major1   | Major2                                                                            |       |       |                                                                                   |
| Conflicting Flow All     | 356                                                                               | 189      | 0                                                                                 | 0     | 192   | 0                                                                                 |
| Stage 1                  | 189                                                                               | -        | -                                                                                 | -     | -     | -                                                                                 |
| Stage 2                  | 167                                                                               | -        | -                                                                                 | -     | -     | -                                                                                 |
| Critical Hdwy            | 6.42                                                                              | 6.22     | -                                                                                 | -     | 4.12  | -                                                                                 |
| Critical Hdwy Stg 1      | 5.42                                                                              | -        | -                                                                                 | -     | -     | -                                                                                 |
| Critical Hdwy Stg 2      | 5.42                                                                              | -        | -                                                                                 | -     | -     | -                                                                                 |
| Follow-up Hdwy           | 3.518                                                                             | 3.318    | -                                                                                 | -     | 2.218 | -                                                                                 |
| Pot Cap-1 Maneuver       | 642                                                                               | 853      | -                                                                                 | -     | 1381  | -                                                                                 |
| Stage 1                  | 844                                                                               | -        | -                                                                                 | -     | -     | -                                                                                 |
| Stage 2                  | 862                                                                               | -        | -                                                                                 | -     | -     | -                                                                                 |
| Platoon blocked, %       |                                                                                   |          | -                                                                                 | -     |       | -                                                                                 |
| Mov Cap-1 Maneuver       | 636                                                                               | 853      | -                                                                                 | -     | 1381  | -                                                                                 |
| Mov Cap-2 Maneuver       | 636                                                                               | -        | -                                                                                 | -     | -     | -                                                                                 |
| Stage 1                  | 844                                                                               | -        | -                                                                                 | -     | -     | -                                                                                 |
| Stage 2                  | 853                                                                               | -        | -                                                                                 | -     | -     | -                                                                                 |
| Approach                 | WB                                                                                | NB       | SB                                                                                |       |       |                                                                                   |
| HCM Ctrl Dly, s/v        | 10.56                                                                             | 0        | 0.64                                                                              |       |       |                                                                                   |
| HCM LOS                  | B                                                                                 |          |                                                                                   |       |       |                                                                                   |
| Minor Lane/Major Mvmt    | NBT                                                                               | NBRWBLn1 | SBL                                                                               | SBT   |       |                                                                                   |
| Capacity (veh/h)         | -                                                                                 | -        | 662                                                                               | 152   | -     |                                                                                   |
| HCM Lane V/C Ratio       | -                                                                                 | -        | 0.021                                                                             | 0.009 | -     |                                                                                   |
| HCM Ctrl Dly (s/v)       | -                                                                                 | -        | 10.6                                                                              | 7.6   | 0     |                                                                                   |
| HCM Lane LOS             | -                                                                                 | -        | B                                                                                 | A     | A     |                                                                                   |
| HCM 95th %tile Q(veh)    | -                                                                                 | -        | 0.1                                                                               | 0     | -     |                                                                                   |

Intersection

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

| Movement                   | EBL  | EBT                                                                               | EBR  | WBL  | WBT                                                                               | WBR  | NBL  | NBT                                                                                 | NBR  | SBL  | SBT                                                                                 | SBR  |
|----------------------------|------|-----------------------------------------------------------------------------------|------|------|-----------------------------------------------------------------------------------|------|------|-------------------------------------------------------------------------------------|------|------|-------------------------------------------------------------------------------------|------|
| Lane Configurations        |      |  |      |      |  |      |      |  |      |      |  |      |
| Traffic Vol, veh/h         | 3    | 60                                                                                | 11   | 100  | 264                                                                               | 72   | 19   | 55                                                                                  | 47   | 18   | 57                                                                                  | 12   |
| Future Vol, veh/h          | 3    | 60                                                                                | 11   | 100  | 264                                                                               | 72   | 19   | 55                                                                                  | 47   | 18   | 57                                                                                  | 12   |
| Peak Hour Factor           | 0.92 | 0.92                                                                              | 0.92 | 0.92 | 0.92                                                                              | 0.92 | 0.92 | 0.92                                                                                | 0.92 | 0.92 | 0.92                                                                                | 0.92 |
| Heavy Vehicles, %          | 2    | 2                                                                                 | 2    | 2    | 2                                                                                 | 2    | 2    | 2                                                                                   | 2    | 2    | 2                                                                                   | 2    |
| Mvmt Flow                  | 3    | 65                                                                                | 12   | 109  | 287                                                                               | 78   | 21   | 60                                                                                  | 51   | 20   | 62                                                                                  | 13   |
| Number of Lanes            | 0    | 1                                                                                 | 0    | 0    | 1                                                                                 | 0    | 0    | 1                                                                                   | 0    | 0    | 1                                                                                   | 0    |
| Approach                   | EB   |                                                                                   |      | WB   |                                                                                   |      | NB   |                                                                                     |      | SB   |                                                                                     |      |
| Opposing Approach          | WB   |                                                                                   |      | EB   |                                                                                   |      | SB   |                                                                                     |      | NB   |                                                                                     |      |
| Opposing Lanes             | 1    |                                                                                   |      | 1    |                                                                                   |      | 1    |                                                                                     |      | 1    |                                                                                     |      |
| Conflicting Approach Left  | SB   |                                                                                   |      | NB   |                                                                                   |      | EB   |                                                                                     |      | WB   |                                                                                     |      |
| Conflicting Lanes Left     | 1    |                                                                                   |      | 1    |                                                                                   |      | 1    |                                                                                     |      | 1    |                                                                                     |      |
| Conflicting Approach Right | NB   |                                                                                   |      | SB   |                                                                                   |      | WB   |                                                                                     |      | EB   |                                                                                     |      |
| Conflicting Lanes Right    | 1    |                                                                                   |      | 1    |                                                                                   |      | 1    |                                                                                     |      | 1    |                                                                                     |      |
| HCM Control Delay, s/veh   | 8.7  |                                                                                   |      | 14.3 |                                                                                   |      | 9.5  |                                                                                     |      | 9.4  |                                                                                     |      |
| HCM LOS                    | A    |                                                                                   |      | B    |                                                                                   |      | A    |                                                                                     |      | A    |                                                                                     |      |

| Lane                     | NBLn1 | EBLn1 | WBLn1 | SBLn1 |
|--------------------------|-------|-------|-------|-------|
| Vol Left, %              | 16%   | 4%    | 23%   | 21%   |
| Vol Thru, %              | 45%   | 81%   | 61%   | 66%   |
| Vol Right, %             | 39%   | 15%   | 17%   | 14%   |
| Sign Control             | Stop  | Stop  | Stop  | Stop  |
| Traffic Vol by Lane      | 121   | 74    | 436   | 87    |
| LT Vol                   | 19    | 3     | 100   | 18    |
| Through Vol              | 55    | 60    | 264   | 57    |
| RT Vol                   | 47    | 11    | 72    | 12    |
| Lane Flow Rate           | 132   | 80    | 474   | 95    |
| Geometry Grp             | 1     | 1     | 1     | 1     |
| Degree of Util (X)       | 0.189 | 0.112 | 0.601 | 0.141 |
| Departure Headway (Hd)   | 5.164 | 4.996 | 4.563 | 5.379 |
| Convergence, Y/N         | Yes   | Yes   | Yes   | Yes   |
| Cap                      | 688   | 709   | 787   | 659   |
| Service Time             | 3.251 | 3.083 | 2.621 | 3.472 |
| HCM Lane V/C Ratio       | 0.192 | 0.113 | 0.602 | 0.144 |
| HCM Control Delay, s/veh | 9.5   | 8.7   | 14.3  | 9.4   |
| HCM Lane LOS             | A     | A     | B     | A     |
| HCM 95th-tile Q          | 0.7   | 0.4   | 4.1   | 0.5   |

| Intersection             |                                                                                   |          |                                                                                   |        |       |                                                                                   |
|--------------------------|-----------------------------------------------------------------------------------|----------|-----------------------------------------------------------------------------------|--------|-------|-----------------------------------------------------------------------------------|
| Int Delay, s/veh         | 1                                                                                 |          |                                                                                   |        |       |                                                                                   |
| Movement                 | WBL                                                                               | WBR      | NBT                                                                               | NBR    | SBL   | SBT                                                                               |
| Lane Configurations      |  |          |  |        |       |  |
| Traffic Vol, veh/h       | 19                                                                                | 9        | 115                                                                               | 15     | 6     | 167                                                                               |
| Future Vol, veh/h        | 19                                                                                | 9        | 115                                                                               | 15     | 6     | 167                                                                               |
| Conflicting Peds, #/hr   | 0                                                                                 | 0        | 0                                                                                 | 0      | 0     | 0                                                                                 |
| Sign Control             | Stop                                                                              | Stop     | Free                                                                              | Free   | Free  | Free                                                                              |
| RT Channelized           | -                                                                                 | None     | -                                                                                 | None   | -     | None                                                                              |
| Storage Length           | 0                                                                                 | -        | -                                                                                 | -      | -     | -                                                                                 |
| Veh in Median Storage, # | 0                                                                                 | -        | 0                                                                                 | -      | -     | 0                                                                                 |
| Grade, %                 | 0                                                                                 | -        | 0                                                                                 | -      | -     | 0                                                                                 |
| Peak Hour Factor         | 92                                                                                | 92       | 92                                                                                | 92     | 92    | 92                                                                                |
| Heavy Vehicles, %        | 2                                                                                 | 2        | 2                                                                                 | 2      | 2     | 2                                                                                 |
| Mvmt Flow                | 21                                                                                | 10       | 125                                                                               | 16     | 7     | 182                                                                               |
|                          |                                                                                   |          |                                                                                   |        |       |                                                                                   |
| Major/Minor              | Minor1                                                                            | Major1   |                                                                                   | Major2 |       |                                                                                   |
| Conflicting Flow All     | 328                                                                               | 133      | 0                                                                                 | 0      | 141   | 0                                                                                 |
| Stage 1                  | 133                                                                               | -        | -                                                                                 | -      | -     | -                                                                                 |
| Stage 2                  | 195                                                                               | -        | -                                                                                 | -      | -     | -                                                                                 |
| Critical Hdwy            | 6.42                                                                              | 6.22     | -                                                                                 | -      | 4.12  | -                                                                                 |
| Critical Hdwy Stg 1      | 5.42                                                                              | -        | -                                                                                 | -      | -     | -                                                                                 |
| Critical Hdwy Stg 2      | 5.42                                                                              | -        | -                                                                                 | -      | -     | -                                                                                 |
| Follow-up Hdwy           | 3.518                                                                             | 3.318    | -                                                                                 | -      | 2.218 | -                                                                                 |
| Pot Cap-1 Maneuver       | 667                                                                               | 916      | -                                                                                 | -      | 1442  | -                                                                                 |
| Stage 1                  | 893                                                                               | -        | -                                                                                 | -      | -     | -                                                                                 |
| Stage 2                  | 838                                                                               | -        | -                                                                                 | -      | -     | -                                                                                 |
| Platoon blocked, %       |                                                                                   |          | -                                                                                 | -      |       | -                                                                                 |
| Mov Cap-1 Maneuver       | 663                                                                               | 916      | -                                                                                 | -      | 1442  | -                                                                                 |
| Mov Cap-2 Maneuver       | 663                                                                               | -        | -                                                                                 | -      | -     | -                                                                                 |
| Stage 1                  | 893                                                                               | -        | -                                                                                 | -      | -     | -                                                                                 |
| Stage 2                  | 834                                                                               | -        | -                                                                                 | -      | -     | -                                                                                 |
|                          |                                                                                   |          |                                                                                   |        |       |                                                                                   |
|                          |                                                                                   |          |                                                                                   |        |       |                                                                                   |
| Approach                 | WB                                                                                | NB       |                                                                                   | SB     |       |                                                                                   |
| HCM Ctrl Dly, s/v        | 10.16                                                                             | 0        |                                                                                   | 0.26   |       |                                                                                   |
| HCM LOS                  | B                                                                                 |          |                                                                                   |        |       |                                                                                   |
|                          |                                                                                   |          |                                                                                   |        |       |                                                                                   |
| Minor Lane/Major Mvmt    | NBT                                                                               | NBRWBLn1 |                                                                                   | SBL    | SBT   |                                                                                   |
| Capacity (veh/h)         | -                                                                                 | -        | 728                                                                               | 62     | -     |                                                                                   |
| HCM Lane V/C Ratio       | -                                                                                 | -        | 0.042                                                                             | 0.005  | -     |                                                                                   |
| HCM Ctrl Dly (s/v)       | -                                                                                 | -        | 10.2                                                                              | 7.5    | 0     |                                                                                   |
| HCM Lane LOS             | -                                                                                 | -        | B                                                                                 | A      | A     |                                                                                   |
| HCM 95th %tile Q(veh)    | -                                                                                 | -        | 0.1                                                                               | 0      | -     |                                                                                   |

Intersection

Int Delay, s/veh 3.7

| Movement                 | EBL  | EBT                                                                               | WBT                                                                               | WBR  | SBL                                                                               | SBR  |
|--------------------------|------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|------|-----------------------------------------------------------------------------------|------|
| Lane Configurations      |      |  |  |      |  |      |
| Traffic Vol, veh/h       | 4    | 9                                                                                 | 9                                                                                 | 0    | 0                                                                                 | 11   |
| Future Vol, veh/h        | 4    | 9                                                                                 | 9                                                                                 | 0    | 0                                                                                 | 11   |
| Conflicting Peds, #/hr   | 0    | 0                                                                                 | 0                                                                                 | 0    | 0                                                                                 | 0    |
| Sign Control             | Free | Free                                                                              | Free                                                                              | Free | Stop                                                                              | Stop |
| RT Channelized           | -    | None                                                                              | -                                                                                 | None | -                                                                                 | None |
| Storage Length           | -    | -                                                                                 | -                                                                                 | -    | 0                                                                                 | -    |
| Veh in Median Storage, # | -    | 0                                                                                 | 0                                                                                 | -    | 0                                                                                 | -    |
| Grade, %                 | -    | 0                                                                                 | 0                                                                                 | -    | 0                                                                                 | -    |
| Peak Hour Factor         | 92   | 92                                                                                | 92                                                                                | 92   | 92                                                                                | 92   |
| Heavy Vehicles, %        | 2    | 2                                                                                 | 2                                                                                 | 2    | 2                                                                                 | 2    |
| Mvmt Flow                | 4    | 10                                                                                | 10                                                                                | 0    | 0                                                                                 | 12   |

| Major/Minor          | Major1 | Major2 | Minor2 |
|----------------------|--------|--------|--------|
| Conflicting Flow All | 10     | 0      | 28     |
| Stage 1              | -      | -      | 10     |
| Stage 2              | -      | -      | 18     |
| Critical Hdwy        | 4.12   | -      | 6.42   |
| Critical Hdwy Stg 1  | -      | -      | 5.42   |
| Critical Hdwy Stg 2  | -      | -      | 5.42   |
| Follow-up Hdwy       | 2.218  | -      | 3.518  |
| Pot Cap-1 Maneuver   | 1610   | -      | 987    |
| Stage 1              | -      | -      | 1013   |
| Stage 2              | -      | -      | 1004   |
| Platoon blocked, %   | -      | -      | -      |
| Mov Cap-1 Maneuver   | 1610   | -      | 984    |
| Mov Cap-2 Maneuver   | -      | -      | 984    |
| Stage 1              | -      | -      | 1010   |
| Stage 2              | -      | -      | 1004   |

| Approach          | EB   | WB | SB  |
|-------------------|------|----|-----|
| HCM Ctrl Dly, s/v | 2.23 | 0  | 8.4 |
| HCM LOS           |      |    | A   |

| Minor Lane/Major Mvmt | EBL   | EBT | WBT | WBR | SBLn1 |
|-----------------------|-------|-----|-----|-----|-------|
| Capacity (veh/h)      | 554   | -   | -   | -   | 1072  |
| HCM Lane V/C Ratio    | 0.003 | -   | -   | -   | 0.011 |
| HCM Ctrl Dly (s/v)    | 7.2   | 0   | -   | -   | 8.4   |
| HCM Lane LOS          | A     | A   | -   | -   | A     |
| HCM 95th %tile Q(veh) | 0     | -   | -   | -   | 0     |

Intersection

|                           |      |
|---------------------------|------|
| Intersection Delay, s/veh | 11.1 |
| Intersection LOS          | B    |

| Movement                   | EBL  | EBT                                                                               | EBR  | WBL  | WBT                                                                               | WBR  | NBL  | NBT                                                                                 | NBR  | SBL  | SBT                                                                                 | SBR  |
|----------------------------|------|-----------------------------------------------------------------------------------|------|------|-----------------------------------------------------------------------------------|------|------|-------------------------------------------------------------------------------------|------|------|-------------------------------------------------------------------------------------|------|
| Lane Configurations        |      |  |      |      |  |      |      |  |      |      |  |      |
| Traffic Vol, veh/h         | 15   | 234                                                                               | 16   | 47   | 121                                                                               | 35   | 13   | 82                                                                                  | 70   | 71   | 76                                                                                  | 11   |
| Future Vol, veh/h          | 15   | 234                                                                               | 16   | 47   | 121                                                                               | 35   | 13   | 82                                                                                  | 70   | 71   | 76                                                                                  | 11   |
| Peak Hour Factor           | 0.92 | 0.92                                                                              | 0.92 | 0.92 | 0.92                                                                              | 0.92 | 0.92 | 0.92                                                                                | 0.92 | 0.92 | 0.92                                                                                | 0.92 |
| Heavy Vehicles, %          | 2    | 2                                                                                 | 2    | 2    | 2                                                                                 | 2    | 2    | 2                                                                                   | 2    | 2    | 2                                                                                   | 2    |
| Mvmt Flow                  | 16   | 254                                                                               | 17   | 51   | 132                                                                               | 38   | 14   | 89                                                                                  | 76   | 77   | 83                                                                                  | 12   |
| Number of Lanes            | 0    | 1                                                                                 | 0    | 0    | 1                                                                                 | 0    | 0    | 1                                                                                   | 0    | 0    | 1                                                                                   | 0    |
| Approach                   | EB   |                                                                                   |      | WB   |                                                                                   |      | NB   |                                                                                     |      | SB   |                                                                                     |      |
| Opposing Approach          | WB   |                                                                                   |      | EB   |                                                                                   |      | SB   |                                                                                     |      | NB   |                                                                                     |      |
| Opposing Lanes             | 1    |                                                                                   |      | 1    |                                                                                   |      | 1    |                                                                                     |      | 1    |                                                                                     |      |
| Conflicting Approach Left  | SB   |                                                                                   |      | NB   |                                                                                   |      | EB   |                                                                                     |      | WB   |                                                                                     |      |
| Conflicting Lanes Left     | 1    |                                                                                   |      | 1    |                                                                                   |      | 1    |                                                                                     |      | 1    |                                                                                     |      |
| Conflicting Approach Right | NB   |                                                                                   |      | SB   |                                                                                   |      | WB   |                                                                                     |      | EB   |                                                                                     |      |
| Conflicting Lanes Right    | 1    |                                                                                   |      | 1    |                                                                                   |      | 1    |                                                                                     |      | 1    |                                                                                     |      |
| HCM Control Delay, s/veh   | 12   |                                                                                   |      | 10.9 |                                                                                   |      | 10.4 |                                                                                     |      | 10.8 |                                                                                     |      |
| HCM LOS                    | B    |                                                                                   |      | B    |                                                                                   |      | B    |                                                                                     |      | B    |                                                                                     |      |

| Lane                     | NBLn1 | EBLn1 | WBLn1 | SBLn1 |
|--------------------------|-------|-------|-------|-------|
| Vol Left, %              | 8%    | 6%    | 23%   | 45%   |
| Vol Thru, %              | 50%   | 88%   | 60%   | 48%   |
| Vol Right, %             | 42%   | 6%    | 17%   | 7%    |
| Sign Control             | Stop  | Stop  | Stop  | Stop  |
| Traffic Vol by Lane      | 165   | 265   | 203   | 158   |
| LT Vol                   | 13    | 15    | 47    | 71    |
| Through Vol              | 82    | 234   | 121   | 76    |
| RT Vol                   | 70    | 16    | 35    | 11    |
| Lane Flow Rate           | 179   | 288   | 221   | 172   |
| Geometry Grp             | 1     | 1     | 1     | 1     |
| Degree of Util (X)       | 0.267 | 0.419 | 0.326 | 0.269 |
| Departure Headway (Hd)   | 5.359 | 5.242 | 5.313 | 5.648 |
| Convergence, Y/N         | Yes   | Yes   | Yes   | Yes   |
| Cap                      | 669   | 686   | 675   | 635   |
| Service Time             | 3.405 | 3.28  | 3.353 | 3.693 |
| HCM Lane V/C Ratio       | 0.268 | 0.42  | 0.327 | 0.271 |
| HCM Control Delay, s/veh | 10.4  | 12    | 10.9  | 10.8  |
| HCM Lane LOS             | B     | B     | B     | B     |
| HCM 95th-tile Q          | 1.1   | 2.1   | 1.4   | 1.1   |

| Intersection             |                                                                                   |          |                                                                                   |       |       |                                                                                   |
|--------------------------|-----------------------------------------------------------------------------------|----------|-----------------------------------------------------------------------------------|-------|-------|-----------------------------------------------------------------------------------|
| Int Delay, s/veh         | 0.9                                                                               |          |                                                                                   |       |       |                                                                                   |
| Movement                 | WBL                                                                               | WBR      | NBT                                                                               | NBR   | SBL   | SBT                                                                               |
| Lane Configurations      |  |          |  |       |       |  |
| Traffic Vol, veh/h       | 17                                                                                | 3        | 170                                                                               | 10    | 14    | 130                                                                               |
| Future Vol, veh/h        | 17                                                                                | 3        | 170                                                                               | 10    | 14    | 130                                                                               |
| Conflicting Peds, #/hr   | 0                                                                                 | 0        | 0                                                                                 | 0     | 0     | 0                                                                                 |
| Sign Control             | Stop                                                                              | Stop     | Free                                                                              | Free  | Free  | Free                                                                              |
| RT Channelized           | -                                                                                 | None     | -                                                                                 | None  | -     | None                                                                              |
| Storage Length           | 0                                                                                 | -        | -                                                                                 | -     | -     | -                                                                                 |
| Veh in Median Storage, # | 0                                                                                 | -        | 0                                                                                 | -     | -     | 0                                                                                 |
| Grade, %                 | 0                                                                                 | -        | 0                                                                                 | -     | -     | 0                                                                                 |
| Peak Hour Factor         | 92                                                                                | 92       | 92                                                                                | 92    | 92    | 92                                                                                |
| Heavy Vehicles, %        | 2                                                                                 | 2        | 2                                                                                 | 2     | 2     | 2                                                                                 |
| Mvmt Flow                | 18                                                                                | 3        | 185                                                                               | 11    | 15    | 141                                                                               |
| Major/Minor              | Minor1                                                                            | Major1   | Major2                                                                            |       |       |                                                                                   |
| Conflicting Flow All     | 362                                                                               | 190      | 0                                                                                 | 0     | 196   | 0                                                                                 |
| Stage 1                  | 190                                                                               | -        | -                                                                                 | -     | -     | -                                                                                 |
| Stage 2                  | 172                                                                               | -        | -                                                                                 | -     | -     | -                                                                                 |
| Critical Hdwy            | 6.42                                                                              | 6.22     | -                                                                                 | -     | 4.12  | -                                                                                 |
| Critical Hdwy Stg 1      | 5.42                                                                              | -        | -                                                                                 | -     | -     | -                                                                                 |
| Critical Hdwy Stg 2      | 5.42                                                                              | -        | -                                                                                 | -     | -     | -                                                                                 |
| Follow-up Hdwy           | 3.518                                                                             | 3.318    | -                                                                                 | -     | 2.218 | -                                                                                 |
| Pot Cap-1 Maneuver       | 637                                                                               | 852      | -                                                                                 | -     | 1377  | -                                                                                 |
| Stage 1                  | 842                                                                               | -        | -                                                                                 | -     | -     | -                                                                                 |
| Stage 2                  | 858                                                                               | -        | -                                                                                 | -     | -     | -                                                                                 |
| Platoon blocked, %       |                                                                                   |          | -                                                                                 | -     |       | -                                                                                 |
| Mov Cap-1 Maneuver       | 629                                                                               | 852      | -                                                                                 | -     | 1377  | -                                                                                 |
| Mov Cap-2 Maneuver       | 629                                                                               | -        | -                                                                                 | -     | -     | -                                                                                 |
| Stage 1                  | 842                                                                               | -        | -                                                                                 | -     | -     | -                                                                                 |
| Stage 2                  | 848                                                                               | -        | -                                                                                 | -     | -     | -                                                                                 |
| Approach                 | WB                                                                                | NB       | SB                                                                                |       |       |                                                                                   |
| HCM Ctrl Dly, s/v        | 10.68                                                                             | 0        | 0.74                                                                              |       |       |                                                                                   |
| HCM LOS                  | B                                                                                 |          |                                                                                   |       |       |                                                                                   |
| Minor Lane/Major Mvmt    | NBT                                                                               | NBRWBLn1 | SBL                                                                               | SBT   |       |                                                                                   |
| Capacity (veh/h)         | -                                                                                 | -        | 655                                                                               | 175   | -     |                                                                                   |
| HCM Lane V/C Ratio       | -                                                                                 | -        | 0.033                                                                             | 0.011 | -     |                                                                                   |
| HCM Ctrl Dly (s/v)       | -                                                                                 | -        | 10.7                                                                              | 7.6   | 0     |                                                                                   |
| HCM Lane LOS             | -                                                                                 | -        | B                                                                                 | A     | A     |                                                                                   |
| HCM 95th %tile Q(veh)    | -                                                                                 | -        | 0.1                                                                               | 0     | -     |                                                                                   |

| Intersection             |        |                                                                                   |                                                                                   |        |                                                                                   |       |
|--------------------------|--------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|--------|-----------------------------------------------------------------------------------|-------|
| Int Delay, s/veh         | 4      |                                                                                   |                                                                                   |        |                                                                                   |       |
| Movement                 | EBL    | EBT                                                                               | WBT                                                                               | WBR    | SBL                                                                               | SBR   |
| Lane Configurations      |        |  |  |        |  |       |
| Traffic Vol, veh/h       | 12     | 10                                                                                | 7                                                                                 | 0      | 0                                                                                 | 7     |
| Future Vol, veh/h        | 12     | 10                                                                                | 7                                                                                 | 0      | 0                                                                                 | 7     |
| Conflicting Peds, #/hr   | 0      | 0                                                                                 | 0                                                                                 | 0      | 0                                                                                 | 0     |
| Sign Control             | Free   | Free                                                                              | Free                                                                              | Free   | Stop                                                                              | Stop  |
| RT Channelized           | -      | None                                                                              | -                                                                                 | None   | -                                                                                 | None  |
| Storage Length           | -      | -                                                                                 | -                                                                                 | -      | 0                                                                                 | -     |
| Veh in Median Storage, # | -      | 0                                                                                 | 0                                                                                 | -      | 0                                                                                 | -     |
| Grade, %                 | -      | 0                                                                                 | 0                                                                                 | -      | 0                                                                                 | -     |
| Peak Hour Factor         | 92     | 92                                                                                | 92                                                                                | 92     | 92                                                                                | 92    |
| Heavy Vehicles, %        | 2      | 2                                                                                 | 2                                                                                 | 2      | 2                                                                                 | 2     |
| Mvmt Flow                | 13     | 11                                                                                | 8                                                                                 | 0      | 0                                                                                 | 8     |
|                          |        |                                                                                   |                                                                                   |        |                                                                                   |       |
| Major/Minor              | Major1 | Major2                                                                            |                                                                                   | Minor2 |                                                                                   |       |
| Conflicting Flow All     | 8      | 0                                                                                 | -                                                                                 | 0      | 45                                                                                | 8     |
| Stage 1                  | -      | -                                                                                 | -                                                                                 | -      | 8                                                                                 | -     |
| Stage 2                  | -      | -                                                                                 | -                                                                                 | -      | 37                                                                                | -     |
| Critical Hdwy            | 4.12   | -                                                                                 | -                                                                                 | -      | 6.42                                                                              | 6.22  |
| Critical Hdwy Stg 1      | -      | -                                                                                 | -                                                                                 | -      | 5.42                                                                              | -     |
| Critical Hdwy Stg 2      | -      | -                                                                                 | -                                                                                 | -      | 5.42                                                                              | -     |
| Follow-up Hdwy           | 2.218  | -                                                                                 | -                                                                                 | -      | 3.518                                                                             | 3.318 |
| Pot Cap-1 Maneuver       | 1613   | -                                                                                 | -                                                                                 | -      | 966                                                                               | 1075  |
| Stage 1                  | -      | -                                                                                 | -                                                                                 | -      | 1015                                                                              | -     |
| Stage 2                  | -      | -                                                                                 | -                                                                                 | -      | 986                                                                               | -     |
| Platoon blocked, %       |        | -                                                                                 | -                                                                                 | -      |                                                                                   |       |
| Mov Cap-1 Maneuver       | 1613   | -                                                                                 | -                                                                                 | -      | 958                                                                               | 1075  |
| Mov Cap-2 Maneuver       | -      | -                                                                                 | -                                                                                 | -      | 958                                                                               | -     |
| Stage 1                  | -      | -                                                                                 | -                                                                                 | -      | 1007                                                                              | -     |
| Stage 2                  | -      | -                                                                                 | -                                                                                 | -      | 986                                                                               | -     |
|                          |        |                                                                                   |                                                                                   |        |                                                                                   |       |
|                          |        |                                                                                   |                                                                                   |        |                                                                                   |       |
| Approach                 | EB     | WB                                                                                |                                                                                   | SB     |                                                                                   |       |
| HCM Ctrl Dly, s/v        | 3.95   | 0                                                                                 |                                                                                   | 8.37   |                                                                                   |       |
| HCM LOS                  | A      |                                                                                   |                                                                                   |        |                                                                                   |       |
|                          |        |                                                                                   |                                                                                   |        |                                                                                   |       |
|                          |        |                                                                                   |                                                                                   |        |                                                                                   |       |
| Minor Lane/Major Mvmt    | EBL    | EBT                                                                               | WBT                                                                               | WBR    | SBLn1                                                                             |       |
| Capacity (veh/h)         | 982    | -                                                                                 | -                                                                                 | -      | -                                                                                 | 1075  |
| HCM Lane V/C Ratio       | 0.008  | -                                                                                 | -                                                                                 | -      | -                                                                                 | 0.007 |
| HCM Ctrl Dly (s/v)       | 7.3    | 0                                                                                 | -                                                                                 | -      | -                                                                                 | 8.4   |
| HCM Lane LOS             | A      | A                                                                                 | -                                                                                 | -      | -                                                                                 | A     |
| HCM 95th %tile Q(veh)    | 0      | -                                                                                 | -                                                                                 | -      | -                                                                                 | 0     |