



LSC TRANSPORTATION CONSULTANTS, INC.

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June 9, 2026

Mr. Gregory W. Brown  
Crystal Valley Ranch  
8031 S. Homesteader Drive  
Morrison, CO 80465

Re: Crystal Valley Ranch PA 3A  
Castle Rock, CO  
LSC #260010

Dear Mr. Brown:

In response to your request, LSC Transportation Consultants, Inc. has prepared this updated Traffic Impact Analysis for the proposed Crystal Valley Ranch PA 3A residential development to address Town comments. As shown on Figure 1, the site is located north of Crystal Valley Parkway and west of Lake Gulch Road in Castle Rock, Colorado.

## **REPORT CONTENTS**

The report contains the following: the existing roadway and traffic conditions in the vicinity of the site including the lane geometries, traffic controls, etc.; the existing weekday peak-hour traffic volumes; the existing daily traffic volumes in the area; the typical weekday site-generated traffic volume projections; the assignment of the projected traffic volumes to the area roadways; the projected background and resulting total traffic volumes on the area roadways; the site's projected traffic impacts; and any recommended roadway improvements to mitigate the site's traffic impacts. All work was based on coordination with Town staff.

## **LAND USE AND ACCESS**

The site is proposed to include 112 single-family detached dwelling units. Access exists to Crystal Valley Parkway via Snow Goose Road as shown in the conceptual site plan in Figure 2. A secondary access will be provided by constructing a cross access road west to access Crystal Valley Parkway at West Loop Road. The applicant and Town staff have agreed to show the north side of the Crystal Valley Parkway/Snow Goose Road intersection (Intersection #2) converted to three-quarter movement for all future conditions.

## **ROADWAY AND TRAFFIC CONDITIONS**

### **Area Roadways**

The major roadways in the site's vicinity are shown on Figure 1 and are described below.

- **Crystal Valley Parkway** is an east-west, four-lane minor arterial roadway south of the site. It reduces to two lanes near Idylwood Street. The intersections with Loop Road, Idylwood Street, and Lake Gulch Road are stop-sign controlled. The posted speed limit is 45 mph in the vicinity of the site and reduces to 35 mph as it approaches Lake Gulch Road.
- **Snow Goose Road** is a north-south, two-lane local road that provides access to the site from Crystal Valley Parkway aligning with Idylwood Street.
- **Loop Road** is a north-south, two-lane collector roadway south of the site. The intersection with Crystal Valley Parkway is stop-sign controlled. The posted speed limit in the vicinity of the site is 35 mph.
- **Lake Gulch Road** is a two-lane County roadway east of the site. The intersection with Crystal Valley Parkway is all-way stop-sign controlled. The posted speed limit in the vicinity of the site is 45 mph.

### **Existing Traffic Conditions**

Figure 3 shows the existing traffic volumes, existing traffic control, and lane geometry in the site's vicinity on a typical weekday. The weekday peak-hour traffic and daily traffic volumes are from the attached traffic counts conducted by Counter Measures in January, 2026.

### **2028 and 2046 Background Traffic**

Figure 4 shows the estimated 2028 background traffic, lane geometry, and traffic control. The 2028 background traffic assumes an annual growth rate of two percent on Crystal Valley Parkway and Lake Gulch Road. It also assumes the I-25/Crystal Valley Parkway Interchange is open which results in a significant shift of trips from east to west. The north side of Intersection #2 is converted to three-quarter movement.

Figure 5 shows the estimated 2046 background traffic, lane geometry, and traffic control. The 2046 background traffic assumes an annual growth rate of two percent on Crystal Valley Parkway and Lake Gulch Road from the volumes in Figure 4. These projections assume the I-25/Crystal Valley Parkway Interchange is open. A lower one percent growth rate was assumed on West Loop Road to estimate buildout conditions. The north side of Intersection #2 is converted to three-quarter movement.

### **Existing, 2028, and 2046 Background Levels of Service**

Level of service (LOS) is a quantitative measure of the level of congestion or delay at an intersection. Level of service is indicated on a scale from "A" to "F." LOS A is indicative of little congestion or delay and LOS F is indicative of a high level of congestion or delay. Attached are specific level of service definitions for signalized and unsignalized intersections.

The intersections in the study area were analyzed to determine the existing, 2028, and 2046 background levels of service using Synchro Version 11. Tables 1a and 1b show the level of service analysis results. The level of service reports are attached.

1. **Crystal Valley Parkway/Loop Road:** All movements at this stop-sign controlled intersection currently operate at LOS “C” or better during both morning and afternoon peak-hours. In 2028 the northbound left-turn movement is expected to operate at LOS “E” in the afternoon peak-hour with stop-sign control and by 2046 the northbound left movement is expected to operate at LOS “E” or “F” in one or both peak-hours. As a signalized intersection it is expected to operate at an overall “B” or better through 2046. As a round-about controlled intersection it is expected to operate at an overall LOS “A” through 2046.
2. **Crystal Valley Parkway/Idylwood Street:** All movements at this stop-sign controlled intersection currently operate at LOS “B” or better during both morning and afternoon peak-hours and are expected to operate at LOS “D” or better through 2028. By 2046, the northbound left-turn movement is expected to operate at LOS “F” during both peak-hours.
3. **Crystal Valley Parkway/Lake Gulch Road:** All movements at this all-way stop-sign controlled intersection currently operate at LOS “D” or better during both morning and afternoon peak-hours and are expected to do so through 2046.

## TRIP GENERATION

Table 2 shows the estimated average daily, weekday morning peak-hour, and weekday afternoon peak-hour trip generation potential for the proposed site based on the rates from *Trip Generation, 12<sup>th</sup> Edition, 2025* by the Institute of Transportation Engineers (ITE).

The site is projected to generate about 1,018 vehicle-trips on the average weekday, with about half entering and half exiting during a 24-hour period. During the morning peak-hour, which generally occurs for one hour between 6:30 and 8:30 a.m., about 21 vehicles would enter and about 57 vehicles would exit the site. During the afternoon peak-hour, which generally occurs for one hour between 4:00 and 6:00 p.m., about 65 vehicles would enter and about 40 vehicles would exit.

## TRIP DISTRIBUTION

Figure 6 shows the estimated directional distribution of the site-generated traffic volumes on the area roadways. The estimates were based on the location of the site with respect to the regional population, employment, and activity centers; and the site’s proposed land use.

## TRIP ASSIGNMENT

Figure 7 shows the estimated site-generated traffic volumes based on the directional distribution percentages (from Figure 6) and the trip generation estimate (from Table 2).

## 2028 AND 2046 TOTAL TRAFFIC

Figure 8 shows the 2028 total traffic which is the sum of the 2028 background traffic volumes (from Figure 4) and the site-generated traffic volumes (from Figure 7). Figure 8 also shows the recommended 2028 lane geometry and traffic control.

Figure 9 shows the 2046 total traffic which is the sum of the 2046 background traffic volumes (from Figure 5) and the site-generated traffic volumes (from Figure 7). Figure 9 also shows the recommended 2046 lane geometry and traffic control.

## PROJECTED LEVELS OF SERVICE

The intersections in the study area were analyzed as appropriate to determine the 2028 and 2046 total levels of service. Tables 1a and 1b show the level of service analysis results. The level of service reports are attached.

1. **Crystal Valley Parkway/Loop Road:** With stop-sign control all movements are expected to operate at LOS “D” or better during both morning and afternoon peak-hours through 2046 with the following exception: The northbound left and through movements are expected to operate at LOS “E” or “F” in one or both peak-hours. If signalized the intersection is expected to operate at an overall LOS “B” during both peak-hours through 2046. As a roundabout controlled intersection it is expected to operate at an overall LOS “A” during both peak-hours through 2046.
2. **Crystal Valley Parkway/Idylwood Street/Snow Goose Street:** The northbound left-turn movement is expected to operate at LOS “E” or “F” during one or both peak-hours in 2028 and 2046.
3. **Crystal Valley Parkway/Lake Gulch Road:** All movements at this all-way stop-sign controlled intersection are expected to operate at LOS “C” or better during both morning and afternoon peak-hours in 2046.

## 95<sup>TH</sup> PERCENTILE QUEUING ANALYSIS

Table 3 shows the projected 95<sup>th</sup> percentile queue lengths in 2046 at Intersections #2 and #3.

## CONCLUSIONS AND RECOMMENDATIONS

### Trip Generation

1. The site is projected to generate about 1,018 vehicle-trips on the average weekday, with about half entering and half exiting during a 24-hour period. During the morning peak-hour, about 21 vehicles would enter and about 57 vehicles would exit the site. During the afternoon peak-hour, about 65 vehicles would enter and about 40 vehicles would exit.

### Projected Levels of Service

2. **Crystal Valley Parkway/Loop Road:** With stop-sign control all movements are expected to operate at LOS “D” or better during both morning and afternoon peak-hours through 2046 with the following exception: The northbound left and through movements are expected to operate at LOS “E” or “F” in one or both peak-hours. If signalized the intersection is expected to operate at an overall LOS “B” during both peak-hours through 2046. As a roundabout controlled intersection it is expected to operate at an overall LOS “A” during both peak-hours through 2046.

3. Crystal Valley Parkway/Idylwood Street/Snow Goose Street: All movements at this stop-sign controlled intersection are expected to operate at LOS “D” or better during both morning and afternoon peak-hours through 2046 with the following exception: The north-bound left-turn movement is expected to operate at LOS “E” or “F” during one or both both peak-hours in 2028 and 2046.
4. Crystal Valley Parkway/Lake Gulch Road: All movements at this all-way stop-sign controlled intersection are expected to operate at LOS “D” or better during both morning and afternoon peak-hours through 2046.

### **Conclusions**

5. The impact of the Crystal Valley Ranch PA 3A residential development can be accommodated by the existing and proposed roadway network with the following recommended improvements.

### **Recommendations**

6. The applicant should construct the cross access roadway to the west as shown in Figure 2.
7. The applicant should convert the north side of the Crystal Valley Parkway/Snow Goose Road intersection (Intersection #2) to three-quarter movement.
8. The applicant has already provided funding to the Town for future traffic signal control so the Town can use these funds to construct a traffic signal or towards a proposed roundabout at Intersection #1 around the time the Crystal Valley Parkway interchange is fully opened for traffic.

\* \* \* \* \*

We trust our findings will assist you in gaining approval of the proposed Crystal Valley Ranch PA 3A residential development. Please contact me if you have any questions or need further assistance.

Sincerely,

LSC TRANSPORTATION CONSULTANTS, INC.

By

Christopher S. McGranahan, PE  
Principal/President



CSM/wc

6-9-26

Enclosures: Tables 1a - 3  
Figures 1 - 9  
Traffic Count Reports  
Level of Service Definitions  
Level of Service Reports

**Table 1a**  
**Intersection Levels of Service Analysis**  
**Crystal Valley Ranch PA 3A - Existing & 2028**  
**Castle Rock, CO**  
**LSC #260010; June, 2026**

[illegible]

**Table 1b**  
**Intersection Levels of Service Analysis**  
**Crystal Valley Ranch PA 3A - 2046**  
**Castle Rock, CO**  
**LSC #260010; June, 2026**

[illegible]

**Table 2**  
**ESTIMATED TRAFFIC GENERATION**  
**Crystal Valley Ranch PA 3A**  
**Castle Rock, CO**  
**LSC #260010; June, 2026**

| Trip Generating Category                      | Quantity              | Trip Generation Rates <sup>(1)</sup> |              |       |              |       | Vehicle - Trips Generated |              |     |                |     |
|-----------------------------------------------|-----------------------|--------------------------------------|--------------|-------|--------------|-------|---------------------------|--------------|-----|----------------|-----|
|                                               |                       | Average Weekday                      | AM Peak Hour |       | PM Peak Hour |       | Average Weekday           | AM Peak Hour |     | PM Peak - Hour |     |
|                                               |                       |                                      | In           | Out   | In           | Out   |                           | In           | Out | In             | Out |
| <b>Currently Proposed Land Use</b>            |                       |                                      |              |       |              |       |                           |              |     |                |     |
| Single-Family Detached Housing <sup>(2)</sup> | 112 DU <sup>(3)</sup> | 9.09                                 | 0.189        | 0.511 | 0.577        | 0.353 | 1,018                     | 21           | 57  | 65             | 40  |

Notes:

(1) Source: *Trip Generation*, Institute of Transportation Engineers, 12th Edition, 2025

(2) ITE Land Use No. 210 - Single-Family Detached Housing

(3) DU = Dwelling Units

**Table 3**  
**95th Percentile Queue Length in Feet <sup>(1)</sup>**  
**Crystal Valley Ranch PA 3A**  
**Castle Rock, CO**  
**LSC #260010; June, 2026**

| Intersection # and Location                                           | Existing<br>Turn<br>Lane<br>Lengths<br>(feet) | 2046<br>Background Traffic |                       | 2046<br>Total Traffic |                       |
|-----------------------------------------------------------------------|-----------------------------------------------|----------------------------|-----------------------|-----------------------|-----------------------|
|                                                                       |                                               | Queue<br>Length<br>AM      | Queue<br>Length<br>PM | Queue<br>Length<br>AM | Queue<br>Length<br>PM |
|                                                                       |                                               |                            |                       |                       |                       |
| 2) <u>Crystal Valley Parkway/Idylwood Street/<br/>Snow Goose Road</u> |                                               |                            |                       |                       |                       |
| NB Left                                                               | 125                                           | 65                         | 25                    | 80                    | 35                    |
| NB Through/Right                                                      | --                                            | 5                          | 5                     | 5                     | 5                     |
| SB Right                                                              | --                                            | 5                          | 5                     | 15                    | 5                     |
| 3) <u>Crystal Valley Parkway/Lake Gulch Road</u>                      |                                               |                            |                       |                       |                       |
| NB Left                                                               | 350                                           | 5                          | 10                    | 5                     | 10                    |
| NB Through                                                            | --                                            | 20                         | 10                    | 20                    | 10                    |
| EB Left                                                               | --                                            | 180                        | 95                    | 200                   | 105                   |
| EB Right                                                              | 100                                           | 5                          | 10                    | 5                     | 10                    |
| SB Through                                                            | --                                            | 10                         | 15                    | 10                    | 15                    |
| SB Right                                                              | 300                                           | 40                         | 150                   | 45                    | 170                   |

(1) Values are from the HCM LOS reports assuming 25 feet per vehicle.



Figure 1

## Vicinity Map

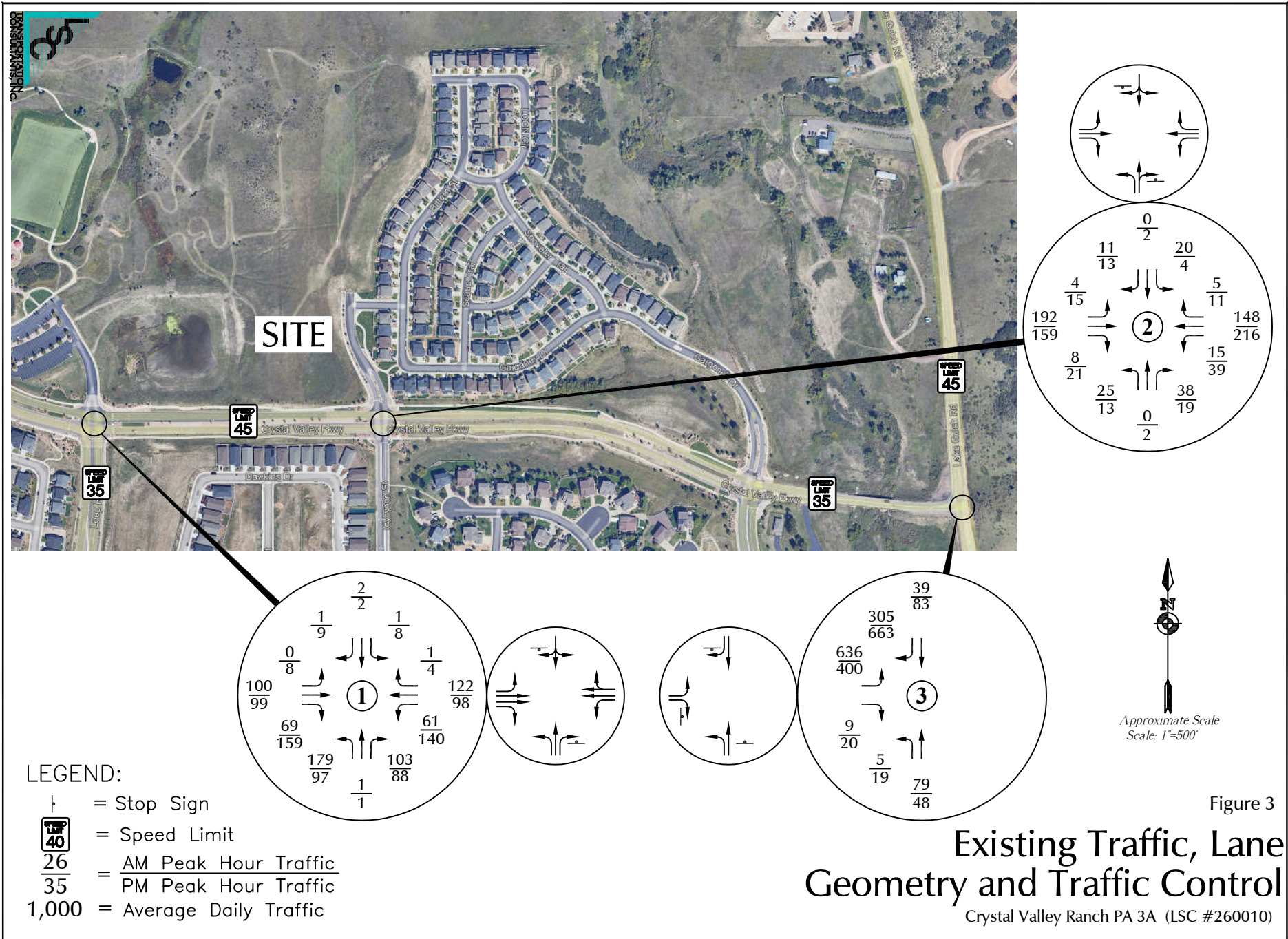
Crystal Valley Ranch PA 3A (LSC #260010)

[illegible]

Figure 2

## Site Plan

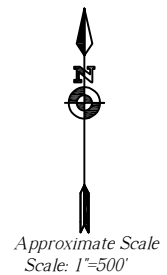
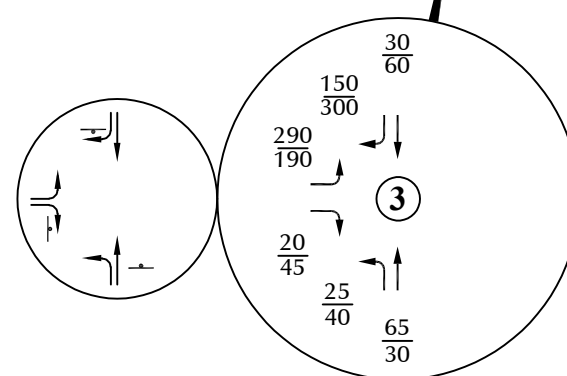
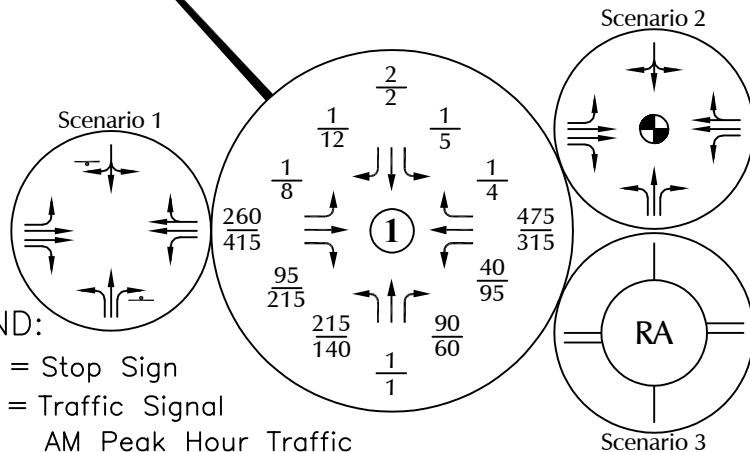
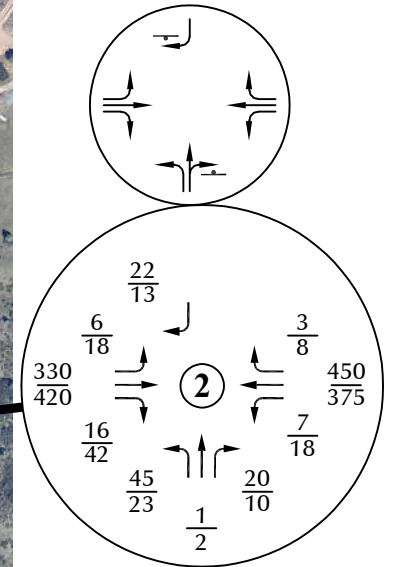
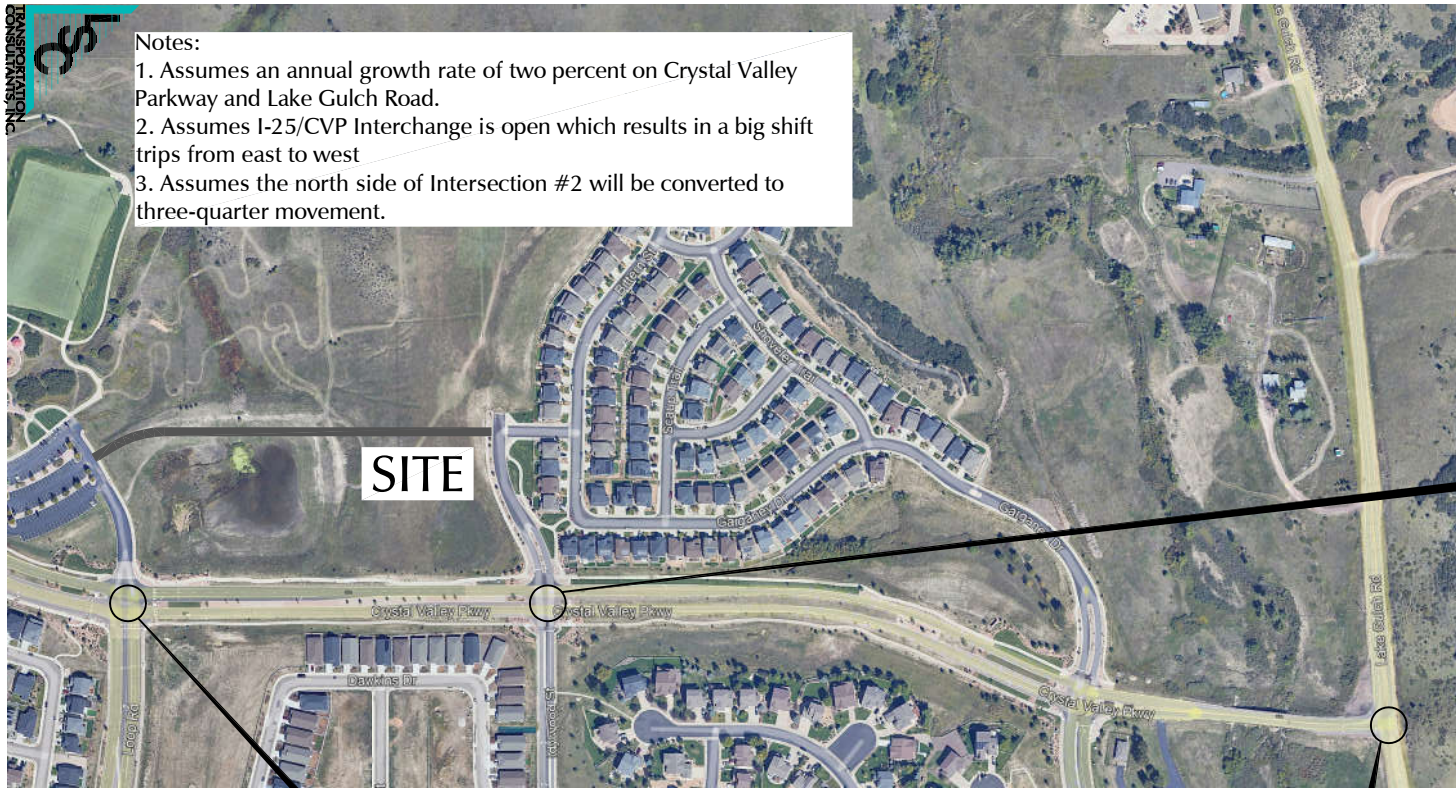
Crystal Valley Ranch PA 3A (LSC #260010)





Notes:

1. Assumes an annual growth rate of two percent on Crystal Valley Parkway and Lake Gulch Road.
2. Assumes I-25/CVP Interchange is open which results in a big shift trips from east to west
3. Assumes the north side of Intersection #2 will be converted to three-quarter movement.



LEGEND:

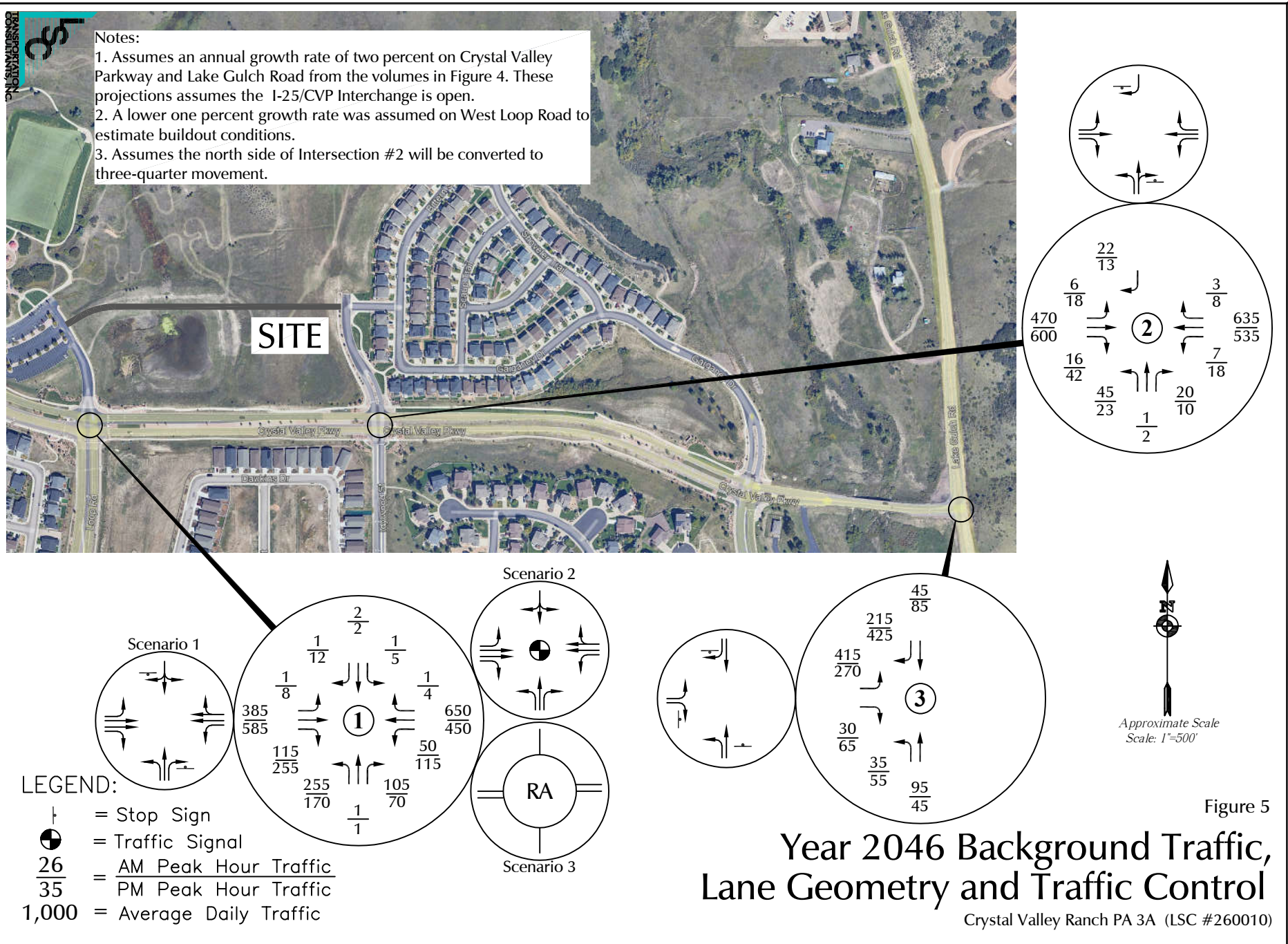
- = Stop Sign
- = Traffic Signal
- $\frac{26}{35}$  = AM Peak Hour Traffic / PM Peak Hour Traffic
- 1,000 = Average Daily Traffic

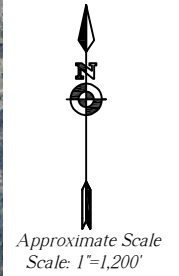
# Year 2028 Background Traffic, Lane Geometry and Traffic Control

Crystal Valley Ranch PA 3A (LSC #260010)

Figure 4

1. Assumes an annual growth rate of two percent on Crystal Valley Parkway and Lake Gulch Road from the volumes in Figure 4. These projections assumes the I-25/CVP Interchange is open.
2. A lower one percent growth rate was assumed on West Loop Road to estimate buildout conditions.
3. Assumes the north side of Intersection #2 will be converted to three-quarter movement.





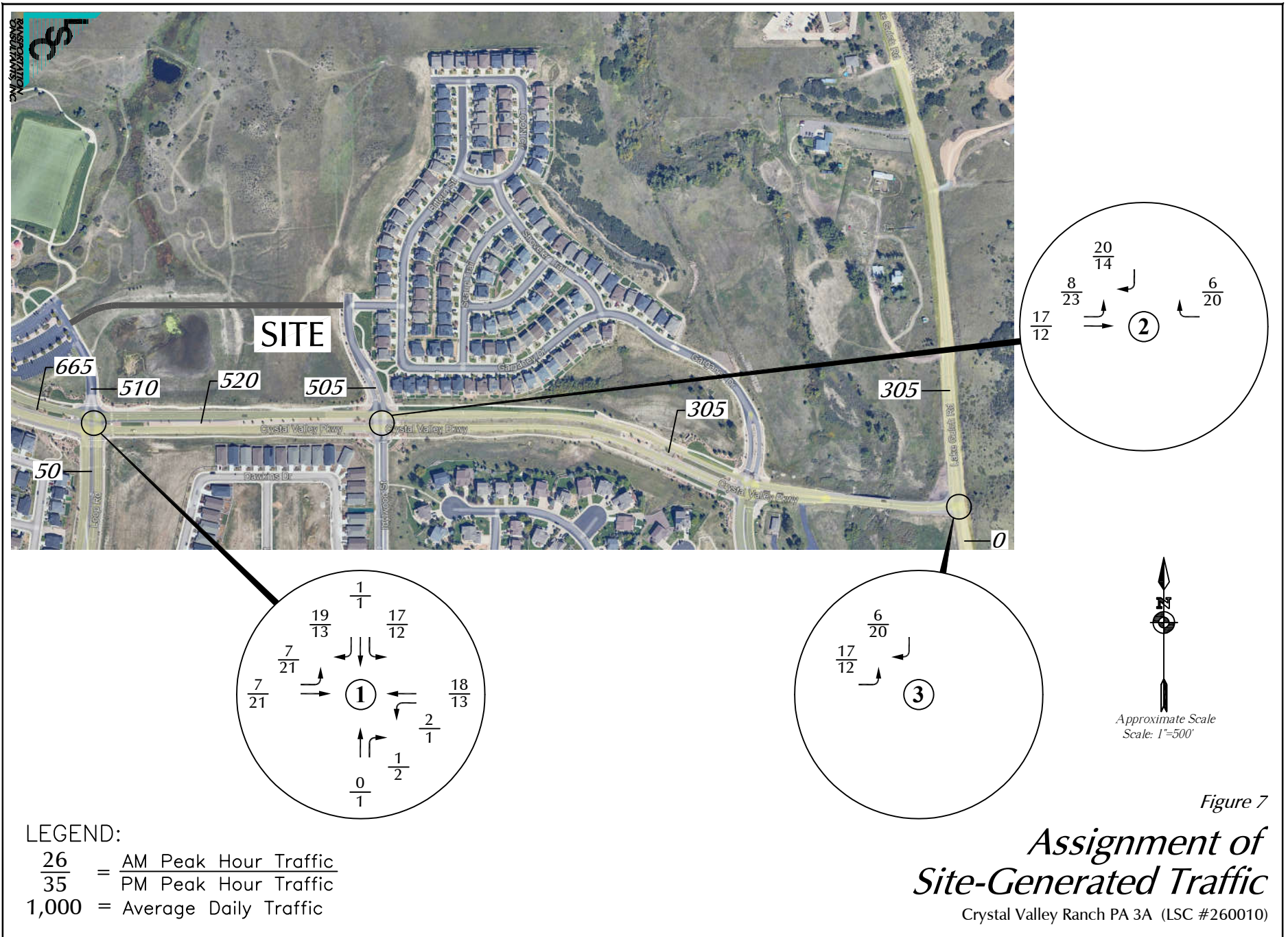
LEGEND:

↔ = Percent Directional  
65% Distribution

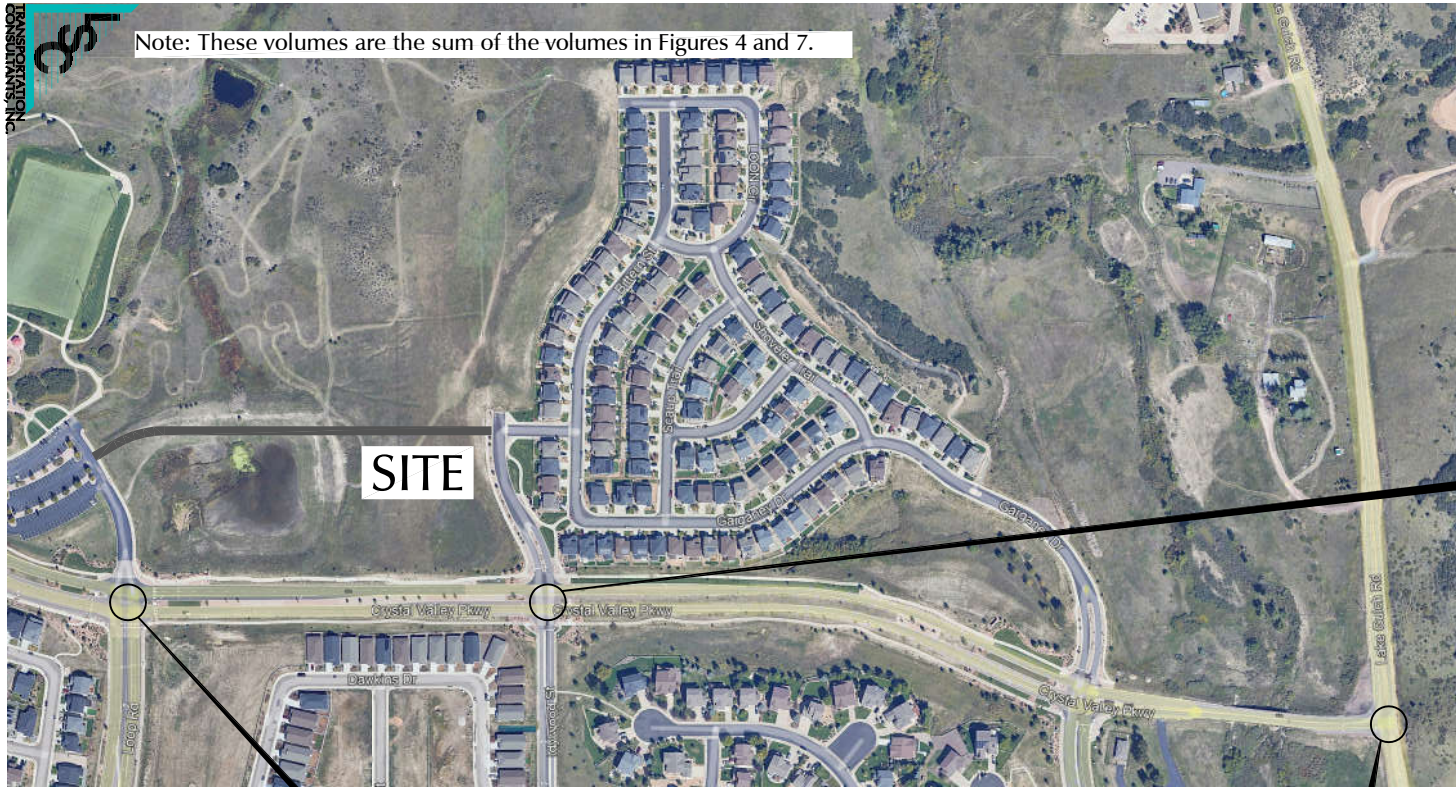
Figure 6

*Directional Distribution  
of Site-Generated Traffic*

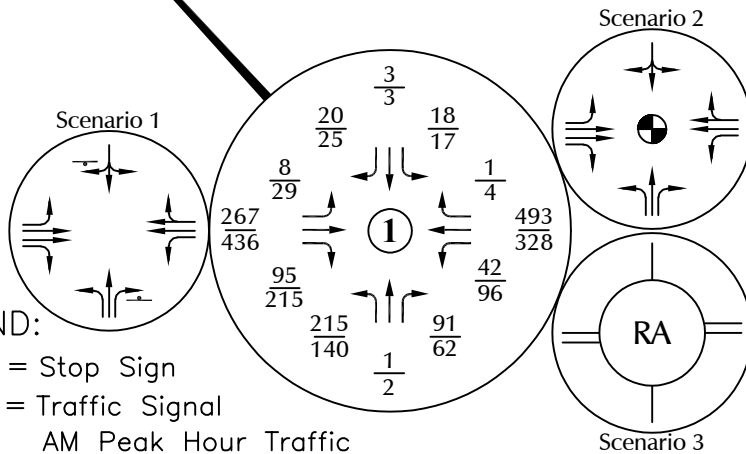
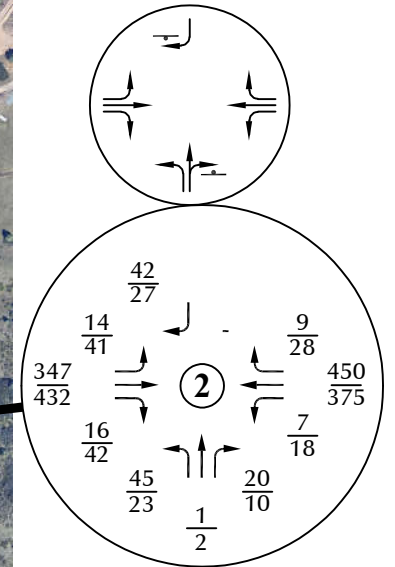
Crystal Valley Ranch PA 3A (LSC #260010)



Note: These volumes are the sum of the volumes in Figures 4 and 7.

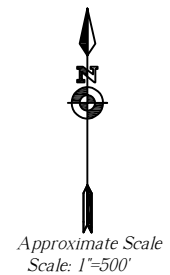
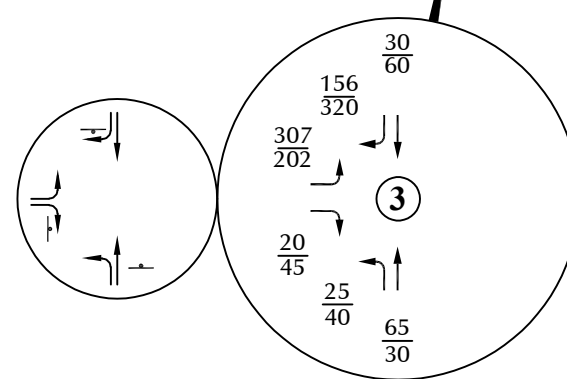


SITE



LEGEND:

- = Stop Sign
- = Traffic Signal
- $\frac{26}{35}$  = AM Peak Hour Traffic
- $\frac{35}{26}$  = PM Peak Hour Traffic
- 1,000 = Average Daily Traffic

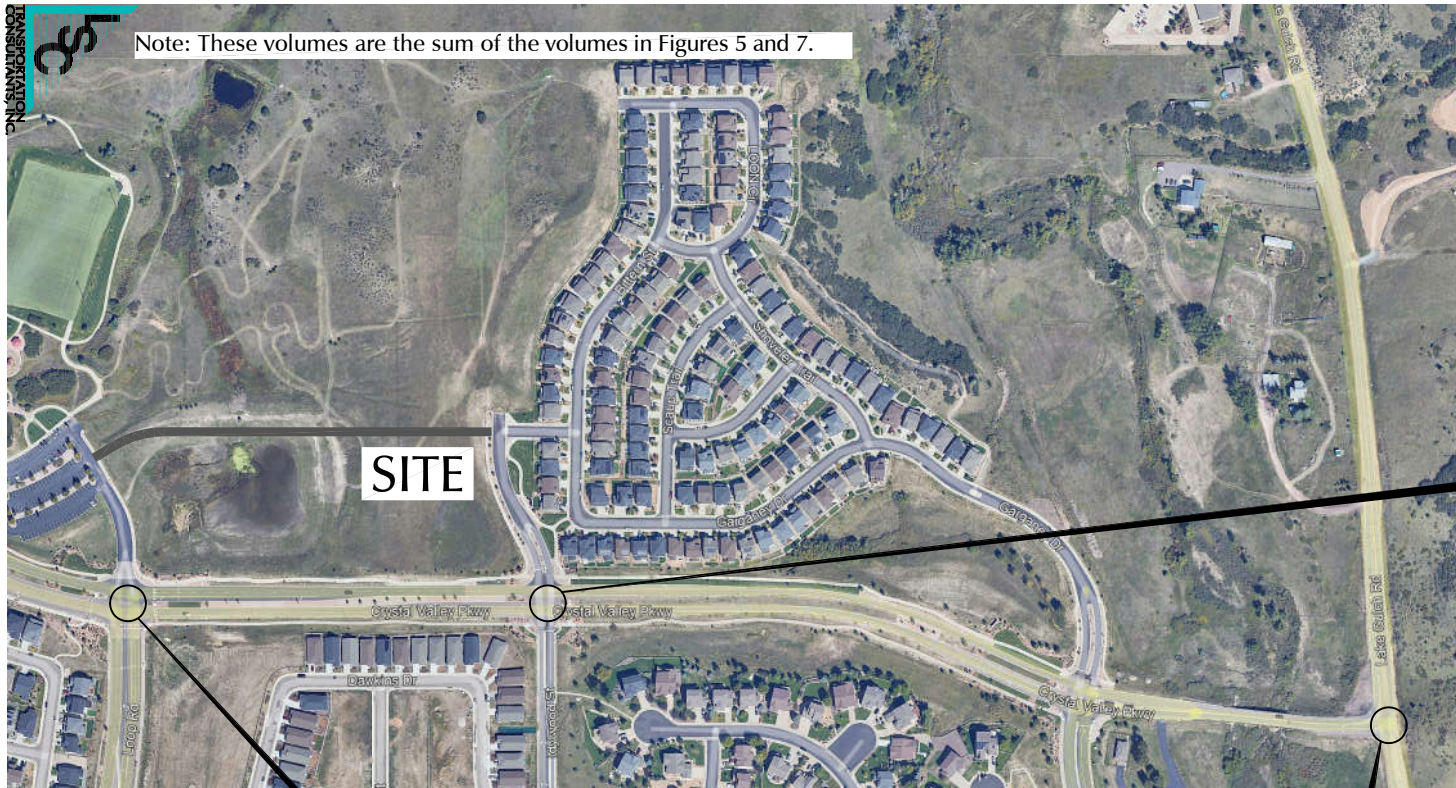


## Year 2028 Total Traffic, Lane Geometry and Traffic Control

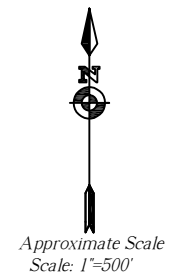
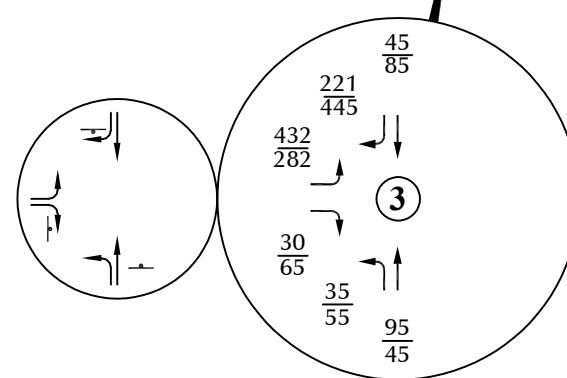
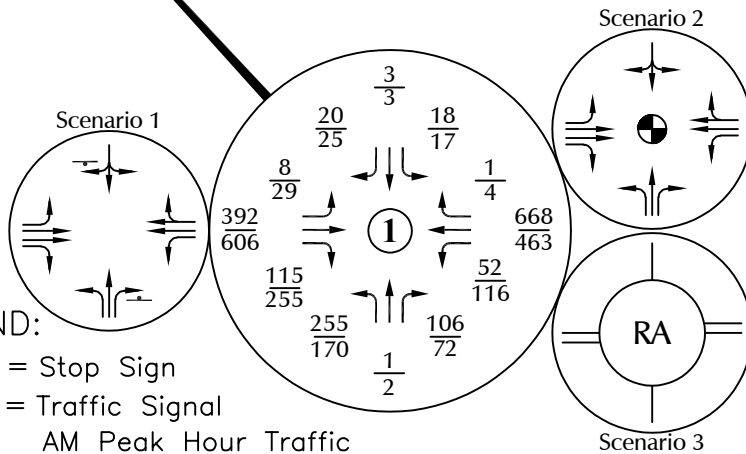
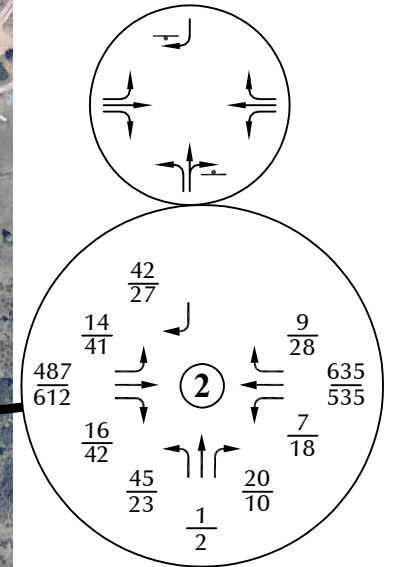
Crystal Valley Ranch PA 3A (LSC #260010)

Figure 8

Note: These volumes are the sum of the volumes in Figures 5 and 7.



SITE



LEGEND:

- = Stop Sign
- = Traffic Signal
- $\frac{26}{35}$  = AM Peak Hour Traffic / PM Peak Hour Traffic
- 1,000 = Average Daily Traffic

# Year 2046 Total Traffic, Lane Geometry and Traffic Control

Crystal Valley Ranch PA 3A (LSC #260010)

Figure 9

# LSC Transportation Consultants, Inc.

2504 E. Pikes Peak Ave, Suite 304  
Colorado Springs, CO 80909  
719-633-2868

File Name : Crystal valley Pkwy - Idylwood St AM

Site Code : D260010

Start Date : 1/15/2026

Page No : 1

## Groups Printed- Unshifted

|             | Snow Goose Rd<br>Southbound |      |      |      |            | Crystal Valley Pkwy<br>Westbound |      |      |      |            | Idylwood St<br>Northbound |      |      |      |            | Chrystal Valley Pkwy<br>Eastbound |      |      |      |            |            |
|-------------|-----------------------------|------|------|------|------------|----------------------------------|------|------|------|------------|---------------------------|------|------|------|------------|-----------------------------------|------|------|------|------------|------------|
| Start Time  | Right                       | Thru | Left | Peds | App. Total | Right                            | Thru | Left | Peds | App. Total | Right                     | Thru | Left | Peds | App. Total | Right                             | Thru | Left | Peds | App. Total | Int. Total |
| 06:30       | 1                           | 0    | 2    | 0    | 3          | 0                                | 9    | 1    | 0    | 10         | 5                         | 0    | 3    | 0    | 8          | 0                                 | 38   | 1    | 0    | 39         | 60         |
| 06:45       | 1                           | 0    | 1    | 0    | 2          | 0                                | 8    | 0    | 0    | 8          | 4                         | 0    | 4    | 0    | 8          | 1                                 | 41   | 1    | 0    | 43         | 61         |
| Total       | 2                           | 0    | 3    | 0    | 5          | 0                                | 17   | 1    | 0    | 18         | 9                         | 0    | 7    | 0    | 16         | 1                                 | 79   | 2    | 0    | 82         | 121        |
| 07:00       | 3                           | 1    | 5    | 0    | 9          | 1                                | 15   | 3    | 0    | 19         | 19                        | 0    | 7    | 0    | 26         | 0                                 | 43   | 1    | 0    | 44         | 98         |
| 07:15       | 2                           | 0    | 4    | 0    | 6          | 0                                | 18   | 2    | 0    | 20         | 10                        | 0    | 5    | 0    | 15         | 0                                 | 45   | 0    | 0    | 45         | 86         |
| 07:30       | 0                           | 0    | 4    | 0    | 4          | 2                                | 21   | 1    | 0    | 24         | 13                        | 0    | 11   | 0    | 24         | 1                                 | 48   | 1    | 0    | 50         | 102        |
| 07:45       | 7                           | 0    | 8    | 0    | 15         | 1                                | 57   | 4    | 0    | 62         | 11                        | 0    | 7    | 0    | 18         | 4                                 | 48   | 0    | 0    | 52         | 147        |
| Total       | 12                          | 1    | 21   | 0    | 34         | 4                                | 111  | 10   | 0    | 125        | 53                        | 0    | 30   | 0    | 83         | 5                                 | 184  | 2    | 0    | 191        | 433        |
| 08:00       | 3                           | 0    | 2    | 0    | 5          | 1                                | 39   | 4    | 0    | 44         | 7                         | 0    | 4    | 0    | 11         | 2                                 | 44   | 0    | 0    | 46         | 106        |
| 08:15       | 1                           | 0    | 6    | 0    | 7          | 1                                | 31   | 6    | 0    | 38         | 7                         | 0    | 3    | 0    | 10         | 1                                 | 52   | 3    | 0    | 56         | 111        |
| 08:30       | 3                           | 0    | 1    | 0    | 4          | 0                                | 23   | 3    | 0    | 26         | 8                         | 2    | 6    | 0    | 16         | 1                                 | 52   | 1    | 0    | 54         | 100        |
| Grand Total | 21                          | 1    | 33   | 0    | 55         | 6                                | 221  | 24   | 0    | 251        | 84                        | 2    | 50   | 0    | 136        | 10                                | 411  | 8    | 0    | 429        | 871        |
| Apprch %    | 38.2                        | 1.8  | 60   | 0    |            | 2.4                              | 88   | 9.6  | 0    |            | 61.8                      | 1.5  | 36.8 | 0    |            | 2.3                               | 95.8 | 1.9  | 0    |            |            |
| Total %     | 2.4                         | 0.1  | 3.8  | 0    | 6.3        | 0.7                              | 25.4 | 2.8  | 0    | 28.8       | 9.6                       | 0.2  | 5.7  | 0    | 15.6       | 1.1                               | 47.2 | 0.9  | 0    | 49.3       |            |

# LSC Transportation Consultants, Inc.

2504 E. Pikes Peak Ave, Suite 304  
Colorado Springs, CO 80909  
719-633-2868

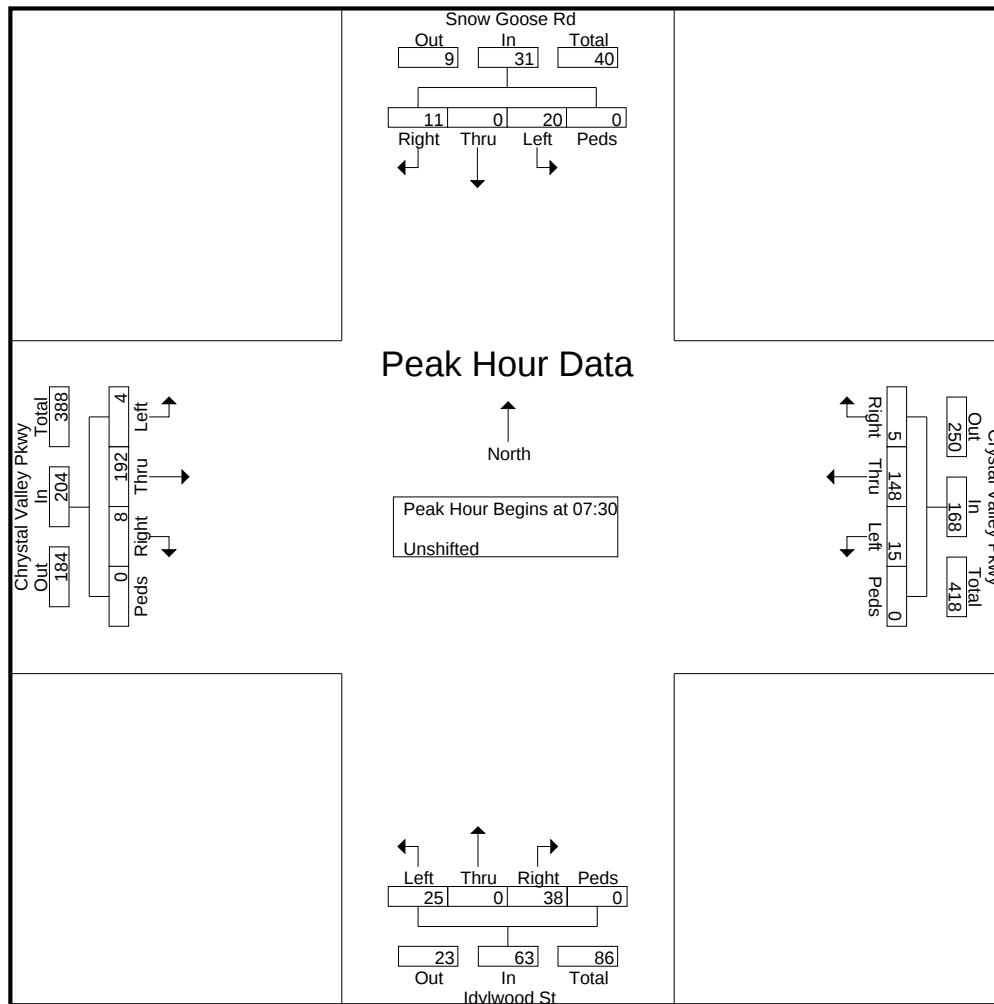
File Name : Crystal valley Pkwy - Idylwood St AM

Site Code : D260010

Start Date : 1/15/2026

Page No : 2

|                                                      | Snow Goose Rd<br>Southbound |      |      |      |            | Crystal Valley Pkwy<br>Westbound |      |      |      |            | Idylwood St<br>Northbound |      |      |      |            | Chrystal Valley Pkwy<br>Eastbound |      |      |      |            |            |
|------------------------------------------------------|-----------------------------|------|------|------|------------|----------------------------------|------|------|------|------------|---------------------------|------|------|------|------------|-----------------------------------|------|------|------|------------|------------|
| Start Time                                           | Right                       | Thru | Left | Peds | App. Total | Right                            | Thru | Left | Peds | App. Total | Right                     | Thru | Left | Peds | App. Total | Right                             | Thru | Left | Peds | App. Total | Int. Total |
| Peak Hour Analysis From 06:30 to 08:30 - Peak 1 of 1 |                             |      |      |      |            |                                  |      |      |      |            |                           |      |      |      |            |                                   |      |      |      |            |            |
| Peak Hour for Entire Intersection Begins at 07:30    |                             |      |      |      |            |                                  |      |      |      |            |                           |      |      |      |            |                                   |      |      |      |            |            |
| 07:30                                                | 0                           | 0    | 4    | 0    | 4          | 2                                | 21   | 1    | 0    | 24         | 13                        | 0    | 11   | 0    | 24         | 1                                 | 48   | 1    | 0    | 50         | 102        |
| 07:45                                                | 7                           | 0    | 8    | 0    | 15         | 1                                | 57   | 4    | 0    | 62         | 11                        | 0    | 7    | 0    | 18         | 4                                 | 48   | 0    | 0    | 52         | 147        |
| 08:00                                                | 3                           | 0    | 2    | 0    | 5          | 1                                | 39   | 4    | 0    | 44         | 7                         | 0    | 4    | 0    | 11         | 2                                 | 44   | 0    | 0    | 46         | 106        |
| 08:15                                                | 1                           | 0    | 6    | 0    | 7          | 1                                | 31   | 6    | 0    | 38         | 7                         | 0    | 3    | 0    | 10         | 1                                 | 52   | 3    | 0    | 56         | 111        |
| Total Volume                                         | 11                          | 0    | 20   | 0    | 31         | 5                                | 148  | 15   | 0    | 168        | 38                        | 0    | 25   | 0    | 63         | 8                                 | 192  | 4    | 0    | 204        | 466        |
| % App. Total                                         | 35.5                        | 0    | 64.5 | 0    |            | 3                                | 88.1 | 8.9  | 0    |            | 60.3                      | 0    | 39.7 | 0    |            | 3.9                               | 94.1 | 2    | 0    |            |            |
| PHF                                                  | .393                        | .000 | .625 | .000 | .517       | .625                             | .649 | .625 | .000 | .677       | .731                      | .000 | .568 | .000 | .656       | .500                              | .923 | .333 | .000 | .911       | .793       |



# LSC Transportation Consultants, Inc.

2504 E. Pikes Peak Ave, Suite 304  
Colorado Springs, CO 80909  
719-633-2868

File Name : Crystal valley Pkwy - Idylwood St PM

Site Code : D260010

Start Date : 1/20/2026

Page No : 1

## Groups Printed- Unshifted

|             | Snow Goose Rd<br>Southbound |      |      |      |            | Crystal Valley Pkwy<br>Westbound |      |      |      |            | Idylwood St<br>Northbound |      |      |      |            | Crystal Valley Pkwy<br>Eastbound |      |      |      |            |            |
|-------------|-----------------------------|------|------|------|------------|----------------------------------|------|------|------|------------|---------------------------|------|------|------|------------|----------------------------------|------|------|------|------------|------------|
| Start Time  | Right                       | Thru | Left | Peds | App. Total | Right                            | Thru | Left | Peds | App. Total | Right                     | Thru | Left | Peds | App. Total | Right                            | Thru | Left | Peds | App. Total | Int. Total |
| 16:00       | 4                           | 0    | 0    | 0    | 4          | 2                                | 51   | 7    | 0    | 60         | 4                         | 1    | 4    | 0    | 9          | 7                                | 35   | 4    | 0    | 46         | 119        |
| 16:15       | 5                           | 1    | 2    | 0    | 8          | 4                                | 64   | 7    | 0    | 75         | 7                         | 1    | 6    | 0    | 14         | 5                                | 43   | 4    | 0    | 52         | 149        |
| 16:30       | 2                           | 0    | 1    | 0    | 3          | 3                                | 43   | 14   | 0    | 60         | 6                         | 0    | 2    | 0    | 8          | 5                                | 27   | 2    | 0    | 34         | 105        |
| 16:45       | 2                           | 1    | 1    | 0    | 4          | 2                                | 58   | 11   | 0    | 71         | 2                         | 0    | 1    | 0    | 3          | 4                                | 33   | 5    | 0    | 42         | 120        |
| Total       | 13                          | 2    | 4    | 0    | 19         | 11                               | 216  | 39   | 0    | 266        | 19                        | 2    | 13   | 0    | 34         | 21                               | 138  | 15   | 0    | 174        | 493        |
| 17:00       | 1                           | 0    | 1    | 0    | 2          | 3                                | 43   | 2    | 0    | 48         | 6                         | 0    | 3    | 0    | 9          | 4                                | 29   | 4    | 0    | 37         | 96         |
| 17:15       | 1                           | 0    | 0    | 0    | 1          | 0                                | 42   | 6    | 0    | 48         | 2                         | 0    | 4    | 0    | 6          | 9                                | 42   | 2    | 0    | 53         | 108        |
| 17:30       | 1                           | 0    | 4    | 0    | 5          | 2                                | 32   | 12   | 0    | 46         | 5                         | 0    | 4    | 0    | 9          | 6                                | 24   | 0    | 0    | 30         | 90         |
| 17:45       | 1                           | 0    | 1    | 0    | 2          | 2                                | 49   | 5    | 0    | 56         | 5                         | 0    | 1    | 0    | 6          | 5                                | 29   | 3    | 0    | 37         | 101        |
| Total       | 4                           | 0    | 6    | 0    | 10         | 7                                | 166  | 25   | 0    | 198        | 18                        | 0    | 12   | 0    | 30         | 24                               | 124  | 9    | 0    | 157        | 395        |
| Grand Total | 17                          | 2    | 10   | 0    | 29         | 18                               | 382  | 64   | 0    | 464        | 37                        | 2    | 25   | 0    | 64         | 45                               | 262  | 24   | 0    | 331        | 888        |
| Apprch %    | 58.6                        | 6.9  | 34.5 | 0    |            | 3.9                              | 82.3 | 13.8 | 0    |            | 57.8                      | 3.1  | 39.1 | 0    |            | 13.6                             | 79.2 | 7.3  | 0    |            |            |
| Total %     | 1.9                         | 0.2  | 1.1  | 0    | 3.3        | 2                                | 43   | 7.2  | 0    | 52.3       | 4.2                       | 0.2  | 2.8  | 0    | 7.2        | 5.1                              | 29.5 | 2.7  | 0    | 37.3       |            |

# LSC Transportation Consultants, Inc.

2504 E. Pikes Peak Ave, Suite 304  
Colorado Springs, CO 80909  
719-633-2868

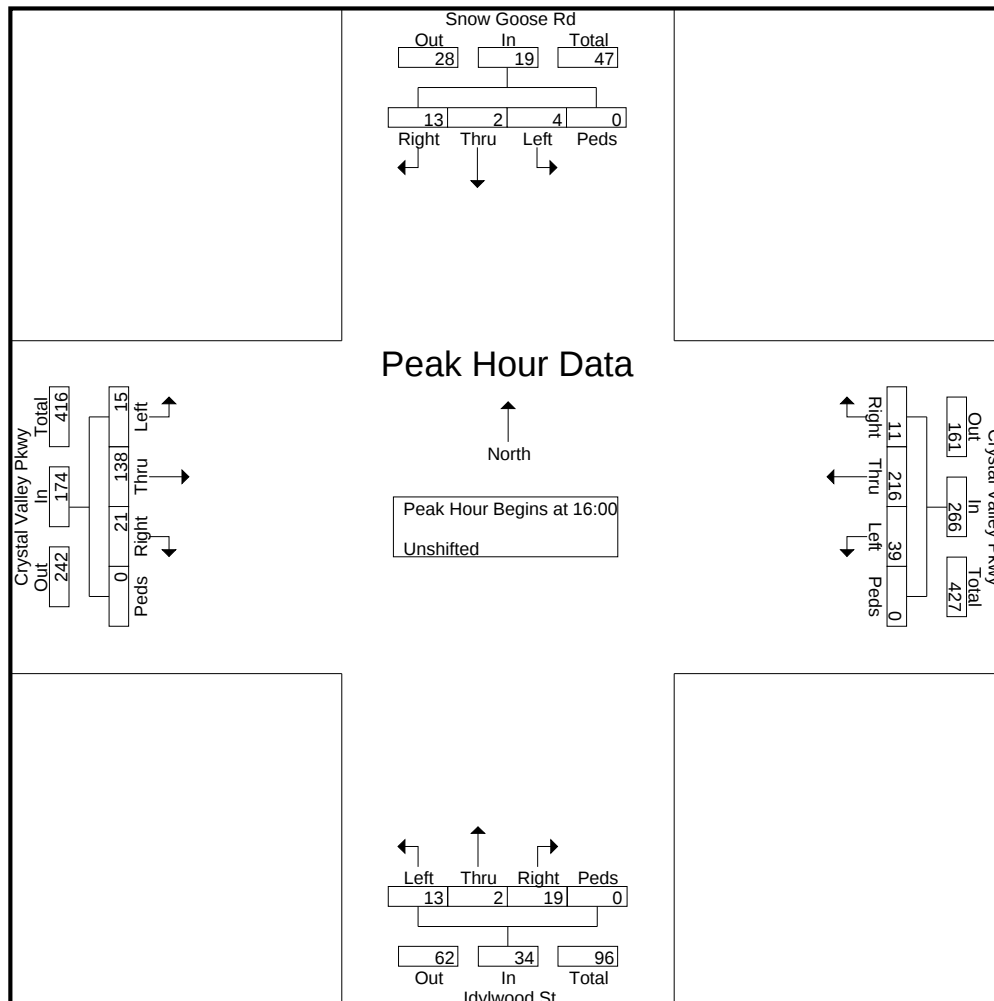
File Name : Crystal valley Pkwy - Idylwood St PM

Site Code : D260010

Start Date : 1/20/2026

Page No : 2

|                                                      | Snow Goose Rd<br>Southbound |      |      |      |            | Crystal Valley Pkwy<br>Westbound |      |      |      |            | Idylwood St<br>Northbound |      |      |      |            | Crystal Valley Pkwy<br>Eastbound |      |      |      |            |            |
|------------------------------------------------------|-----------------------------|------|------|------|------------|----------------------------------|------|------|------|------------|---------------------------|------|------|------|------------|----------------------------------|------|------|------|------------|------------|
| Start Time                                           | Right                       | Thru | Left | Peds | App. Total | Right                            | Thru | Left | Peds | App. Total | Right                     | Thru | Left | Peds | App. Total | Right                            | Thru | Left | Peds | App. Total | Int. Total |
| Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1 |                             |      |      |      |            |                                  |      |      |      |            |                           |      |      |      |            |                                  |      |      |      |            |            |
| Peak Hour for Entire Intersection Begins at 16:00    |                             |      |      |      |            |                                  |      |      |      |            |                           |      |      |      |            |                                  |      |      |      |            |            |
| 16:00                                                | 4                           | 0    | 0    | 0    | 4          | 2                                | 51   | 7    | 0    | 60         | 4                         | 1    | 4    | 0    | 9          | 7                                | 35   | 4    | 0    | 46         | 119        |
| 16:15                                                | 5                           | 1    | 2    | 0    | 8          | 4                                | 64   | 7    | 0    | 75         | 7                         | 1    | 6    | 0    | 14         | 5                                | 43   | 4    | 0    | 52         | 149        |
| 16:30                                                | 2                           | 0    | 1    | 0    | 3          | 3                                | 43   | 14   | 0    | 60         | 6                         | 0    | 2    | 0    | 8          | 5                                | 27   | 2    | 0    | 34         | 105        |
| 16:45                                                | 2                           | 1    | 1    | 0    | 4          | 2                                | 58   | 11   | 0    | 71         | 2                         | 0    | 1    | 0    | 3          | 4                                | 33   | 5    | 0    | 42         | 120        |
| Total Volume                                         | 13                          | 2    | 4    | 0    | 19         | 11                               | 216  | 39   | 0    | 266        | 19                        | 2    | 13   | 0    | 34         | 21                               | 138  | 15   | 0    | 174        | 493        |
| % App. Total                                         | 68.4                        | 10.5 | 21.1 | 0    |            | 4.1                              | 81.2 | 14.7 | 0    |            | 55.9                      | 5.9  | 38.2 | 0    |            | 12.1                             | 79.3 | 8.6  | 0    |            |            |
| PHF                                                  | .650                        | .500 | .500 | .000 | .594       | .688                             | .844 | .696 | .000 | .887       | .679                      | .500 | .542 | .000 | .607       | .750                             | .802 | .750 | .000 | .837       | .827       |



# LSC Transportation Consultants, Inc.

2504 E. Pikes Peak Ave, Suite 304  
Colorado Springs, CO 80909  
719-633-2868

File Name : Crystal valley Pkwy - Lake Gulch Rd AM

Site Code : D260010

Start Date : 1/15/2026

Page No : 1

## Groups Printed- Unshifted

|             | Lake Gulch Rd<br>Southbound |      |      |      |            | Westbound |      |      |      |            | Lake Gulch Rd<br>Northbound |      |      |      |            | Crystal Valley Pkwy<br>Eastbound |      |      |      |            |            |
|-------------|-----------------------------|------|------|------|------------|-----------|------|------|------|------------|-----------------------------|------|------|------|------------|----------------------------------|------|------|------|------------|------------|
| Start Time  | Right                       | Thru | Left | Peds | App. Total | Right     | Thru | Left | Peds | App. Total | Right                       | Thru | Left | Peds | App. Total | Right                            | Thru | Left | Peds | App. Total | Int. Total |
| 06:30       | 19                          | 6    | 0    | 0    | 25         | 0         | 0    | 0    | 0    | 0          | 0                           | 17   | 0    | 0    | 17         | 1                                | 0    | 126  | 0    | 127        | 169        |
| 06:45       | 21                          | 5    | 0    | 0    | 26         | 0         | 0    | 0    | 0    | 0          | 0                           | 20   | 3    | 0    | 23         | 3                                | 0    | 173  | 0    | 176        | 225        |
| Total       | 40                          | 11   | 0    | 0    | 51         | 0         | 0    | 0    | 0    | 0          | 0                           | 37   | 3    | 0    | 40         | 4                                | 0    | 299  | 0    | 303        | 394        |
| 07:00       | 32                          | 5    | 0    | 0    | 37         | 0         | 0    | 0    | 0    | 0          | 0                           | 17   | 1    | 0    | 18         | 2                                | 0    | 164  | 0    | 166        | 221        |
| 07:15       | 38                          | 2    | 0    | 0    | 40         | 0         | 0    | 0    | 0    | 0          | 0                           | 23   | 4    | 0    | 27         | 2                                | 0    | 183  | 0    | 185        | 252        |
| 07:30       | 76                          | 9    | 0    | 0    | 85         | 0         | 0    | 0    | 0    | 0          | 0                           | 21   | 2    | 0    | 23         | 1                                | 0    | 178  | 0    | 179        | 287        |
| 07:45       | 83                          | 11   | 0    | 0    | 94         | 0         | 0    | 0    | 0    | 0          | 0                           | 16   | 2    | 0    | 18         | 4                                | 0    | 152  | 0    | 156        | 268        |
| Total       | 229                         | 27   | 0    | 0    | 256        | 0         | 0    | 0    | 0    | 0          | 0                           | 77   | 9    | 0    | 86         | 9                                | 0    | 677  | 0    | 686        | 1028       |
| 08:00       | 71                          | 9    | 0    | 0    | 80         | 0         | 0    | 0    | 0    | 0          | 0                           | 20   | 1    | 0    | 21         | 1                                | 0    | 147  | 0    | 148        | 249        |
| 08:15       | 75                          | 10   | 0    | 0    | 85         | 0         | 0    | 0    | 0    | 0          | 0                           | 22   | 0    | 0    | 22         | 3                                | 0    | 159  | 0    | 162        | 269        |
| Grand Total | 415                         | 57   | 0    | 0    | 472        | 0         | 0    | 0    | 0    | 0          | 0                           | 156  | 13   | 0    | 169        | 17                               | 0    | 1282 | 0    | 1299       | 1940       |
| Apprch %    | 87.9                        | 12.1 | 0    | 0    |            | 0         | 0    | 0    | 0    |            | 0                           | 92.3 | 7.7  | 0    |            | 1.3                              | 0    | 98.7 | 0    |            |            |
| Total %     | 21.4                        | 2.9  | 0    | 0    | 24.3       | 0         | 0    | 0    | 0    | 0          | 0                           | 8    | 0.7  | 0    | 8.7        | 0.9                              | 0    | 66.1 | 0    | 67         |            |

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2504 E. Pikes Peak Ave, Suite 304  
Colorado Springs, CO 80909  
719-633-2868

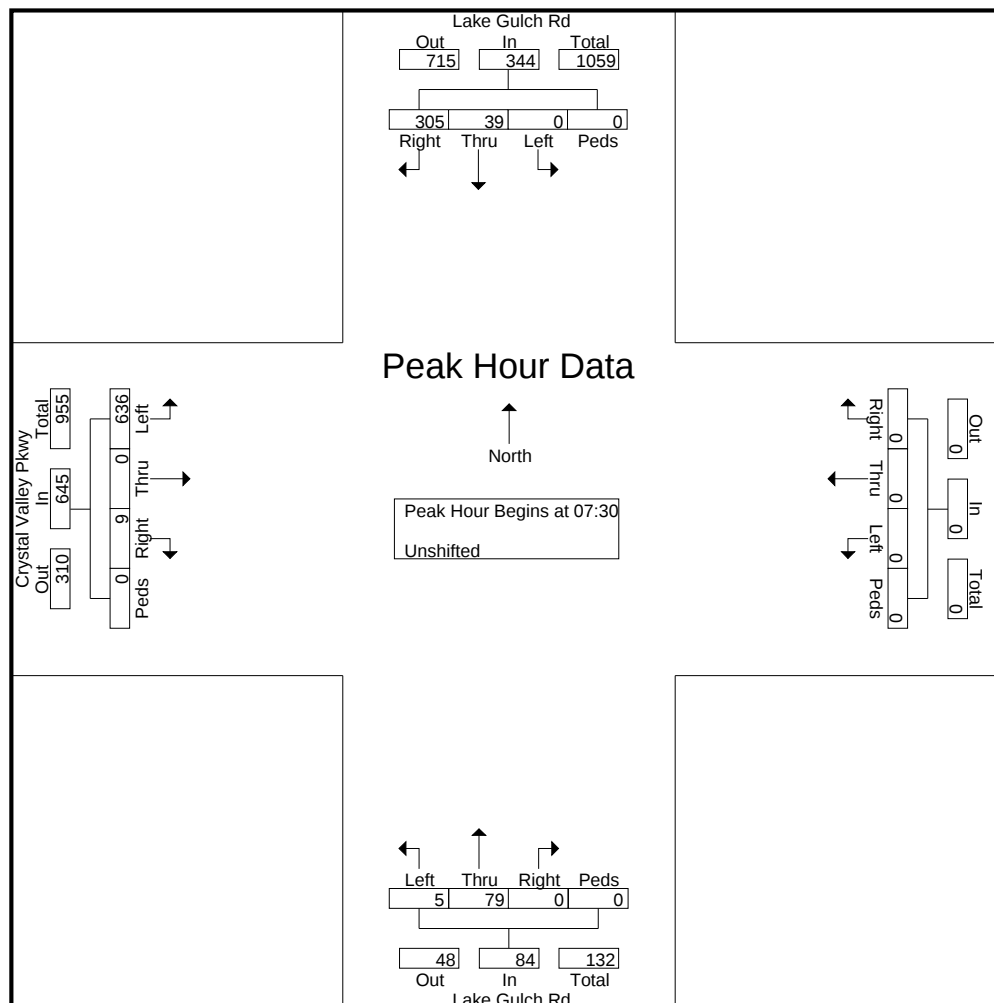
File Name : Crystal valley Pkwy - Lake Gulch Rd AM

Site Code : D260010

Start Date : 1/15/2026

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|                                                      | Lake Gulch Rd Southbound |      |      |      |            | Westbound |      |      |      |            | Lake Gulch Rd Northbound |      |      |      |            | Crystal Valley Pkwy Eastbound |      |      |      |            |            |
|------------------------------------------------------|--------------------------|------|------|------|------------|-----------|------|------|------|------------|--------------------------|------|------|------|------------|-------------------------------|------|------|------|------------|------------|
| Start Time                                           | Right                    | Thru | Left | Peds | App. Total | Right     | Thru | Left | Peds | App. Total | Right                    | Thru | Left | Peds | App. Total | Right                         | Thru | Left | Peds | App. Total | Int. Total |
| Peak Hour Analysis From 06:30 to 08:15 - Peak 1 of 1 |                          |      |      |      |            |           |      |      |      |            |                          |      |      |      |            |                               |      |      |      |            |            |
| Peak Hour for Entire Intersection Begins at 07:30    |                          |      |      |      |            |           |      |      |      |            |                          |      |      |      |            |                               |      |      |      |            |            |
| 07:30                                                | 76                       | 9    | 0    | 0    | 85         | 0         | 0    | 0    | 0    | 0          | 0                        | 21   | 2    | 0    | 23         | 1                             | 0    | 178  | 0    | 179        | 287        |
| 07:45                                                | 83                       | 11   | 0    | 0    | 94         | 0         | 0    | 0    | 0    | 0          | 0                        | 16   | 2    | 0    | 18         | 4                             | 0    | 152  | 0    | 156        | 268        |
| 08:00                                                | 71                       | 9    | 0    | 0    | 80         | 0         | 0    | 0    | 0    | 0          | 0                        | 20   | 1    | 0    | 21         | 1                             | 0    | 147  | 0    | 148        | 249        |
| 08:15                                                | 75                       | 10   | 0    | 0    | 85         | 0         | 0    | 0    | 0    | 0          | 0                        | 22   | 0    | 0    | 22         | 3                             | 0    | 159  | 0    | 162        | 269        |
| Total Volume                                         | 305                      | 39   | 0    | 0    | 344        | 0         | 0    | 0    | 0    | 0          | 0                        | 79   | 5    | 0    | 84         | 9                             | 0    | 636  | 0    | 645        | 1073       |
| % App. Total                                         | 88.7                     | 11.3 | 0    | 0    |            | 0         | 0    | 0    | 0    |            | 0                        | 94   | 6    | 0    |            | 1.4                           | 0    | 98.6 | 0    |            |            |
| PHF                                                  | .919                     | .886 | .000 | .000 | .915       | .000      | .000 | .000 | .000 | .000       | .000                     | .898 | .625 | .000 | .913       | .563                          | .000 | .893 | .000 | .901       | .935       |



# LSC Transportation Consultants, Inc.

2504 E. Pikes Peak Ave, Suite 304  
Colorado Springs, CO 80909  
719-633-2868

File Name : Crystal valley Pkwy - Lake Gulch Rd PM

Site Code : D260010

Start Date : 1/14/2026

Page No : 1

## Groups Printed- Unshifted

|             | Lake Gulch Rd Southbound |      |      |      |            | Westbound |      |      |      |            | Lake Gulch Rd Northbound |      |      |      |            | Crystal Valley Pkwy Eastbound |      |      |      |            |            |
|-------------|--------------------------|------|------|------|------------|-----------|------|------|------|------------|--------------------------|------|------|------|------------|-------------------------------|------|------|------|------------|------------|
| Start Time  | Right                    | Thru | Left | Peds | App. Total | Right     | Thru | Left | Peds | App. Total | Right                    | Thru | Left | Peds | App. Total | Right                         | Thru | Left | Peds | App. Total | Int. Total |
| 16:00       | 167                      | 16   | 0    | 1    | 184        | 0         | 0    | 0    | 0    | 0          | 0                        | 10   | 11   | 0    | 21         | 4                             | 0    | 87   | 0    | 91         | 296        |
| 16:15       | 210                      | 23   | 0    | 0    | 233        | 0         | 0    | 0    | 0    | 0          | 0                        | 16   | 5    | 0    | 21         | 6                             | 0    | 91   | 0    | 97         | 351        |
| 16:30       | 142                      | 23   | 0    | 2    | 167        | 0         | 0    | 0    | 0    | 0          | 0                        | 14   | 1    | 0    | 15         | 6                             | 0    | 105  | 0    | 111        | 293        |
| 16:45       | 144                      | 21   | 0    | 1    | 166        | 0         | 0    | 0    | 0    | 0          | 0                        | 8    | 2    | 0    | 10         | 4                             | 0    | 117  | 0    | 121        | 297        |
| Total       | 663                      | 83   | 0    | 4    | 750        | 0         | 0    | 0    | 0    | 0          | 0                        | 48   | 19   | 0    | 67         | 20                            | 0    | 400  | 0    | 420        | 1237       |
| 17:00       | 161                      | 15   | 0    | 1    | 177        | 0         | 0    | 0    | 0    | 0          | 0                        | 16   | 5    | 0    | 21         | 5                             | 0    | 93   | 0    | 98         | 296        |
| 17:15       | 167                      | 20   | 0    | 1    | 188        | 0         | 0    | 0    | 0    | 0          | 0                        | 17   | 5    | 0    | 22         | 6                             | 0    | 85   | 0    | 91         | 301        |
| 17:30       | 153                      | 17   | 0    | 0    | 170        | 0         | 0    | 0    | 0    | 0          | 0                        | 11   | 2    | 0    | 13         | 1                             | 0    | 80   | 0    | 81         | 264        |
| 17:45       | 127                      | 9    | 0    | 0    | 136        | 0         | 0    | 0    | 0    | 0          | 0                        | 17   | 2    | 0    | 19         | 4                             | 0    | 70   | 0    | 74         | 229        |
| Total       | 608                      | 61   | 0    | 2    | 671        | 0         | 0    | 0    | 0    | 0          | 0                        | 61   | 14   | 0    | 75         | 16                            | 0    | 328  | 0    | 344        | 1090       |
| Grand Total | 1271                     | 144  | 0    | 6    | 1421       | 0         | 0    | 0    | 0    | 0          | 0                        | 109  | 33   | 0    | 142        | 36                            | 0    | 728  | 0    | 764        | 2327       |
| Apprch %    | 89.4                     | 10.1 | 0    | 0.4  |            | 0         | 0    | 0    | 0    |            | 0                        | 76.8 | 23.2 | 0    |            | 4.7                           | 0    | 95.3 | 0    |            |            |
| Total %     | 54.6                     | 6.2  | 0    | 0.3  | 61.1       | 0         | 0    | 0    | 0    | 0          | 0                        | 4.7  | 1.4  | 0    | 6.1        | 1.5                           | 0    | 31.3 | 0    | 32.8       |            |

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2504 E. Pikes Peak Ave, Suite 304  
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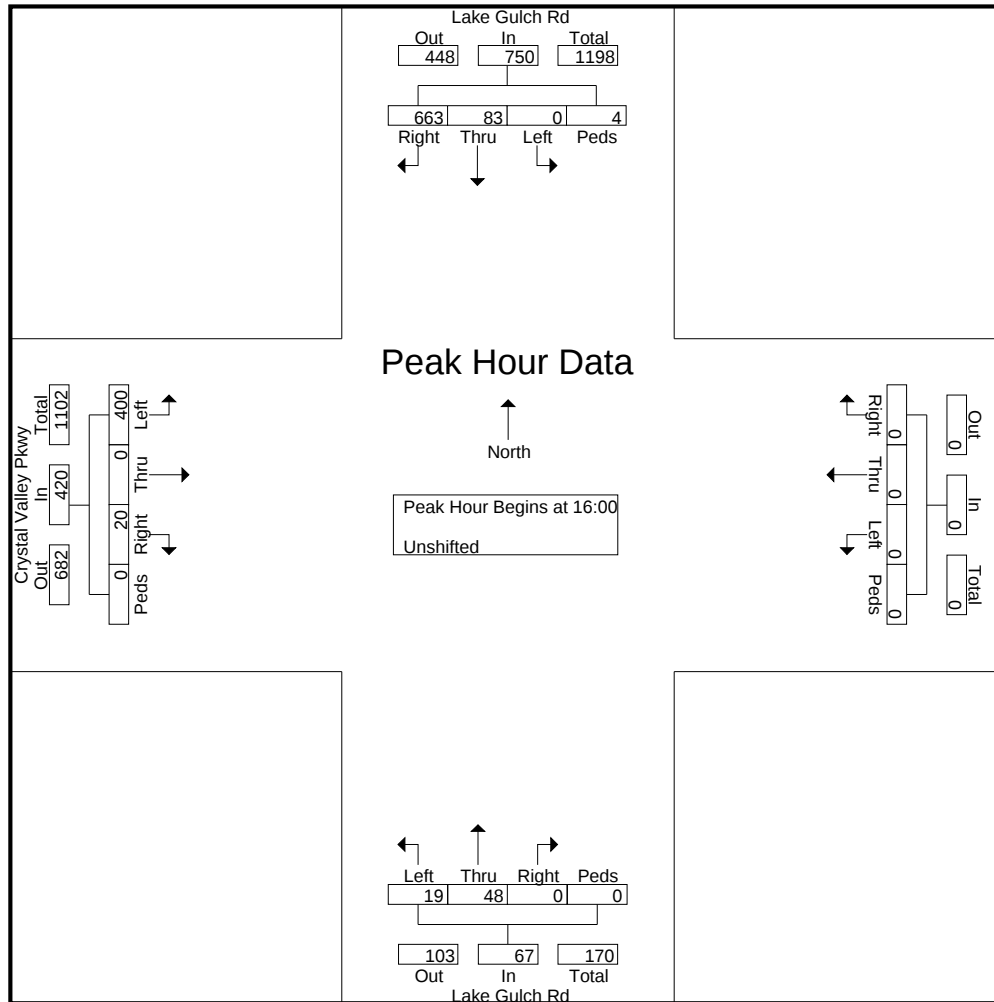
File Name : Crystal valley Pkwy - Lake Gulch Rd PM

Site Code : D260010

Start Date : 1/14/2026

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|                                                      | Lake Gulch Rd Southbound |      |      |      |            | Westbound |      |      |      |            | Lake Gulch Rd Northbound |      |      |      |            | Crystal Valley Pkwy Eastbound |      |      |      |            |            |
|------------------------------------------------------|--------------------------|------|------|------|------------|-----------|------|------|------|------------|--------------------------|------|------|------|------------|-------------------------------|------|------|------|------------|------------|
| Start Time                                           | Right                    | Thru | Left | Peds | App. Total | Right     | Thru | Left | Peds | App. Total | Right                    | Thru | Left | Peds | App. Total | Right                         | Thru | Left | Peds | App. Total | Int. Total |
| Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1 |                          |      |      |      |            |           |      |      |      |            |                          |      |      |      |            |                               |      |      |      |            |            |
| Peak Hour for Entire Intersection Begins at 16:00    |                          |      |      |      |            |           |      |      |      |            |                          |      |      |      |            |                               |      |      |      |            |            |
| 16:00                                                | 167                      | 16   | 0    | 1    | 184        | 0         | 0    | 0    | 0    | 0          | 0                        | 10   | 11   | 0    | 21         | 4                             | 0    | 87   | 0    | 91         | 296        |
| 16:15                                                | 210                      | 23   | 0    | 0    | 233        | 0         | 0    | 0    | 0    | 0          | 0                        | 16   | 5    | 0    | 21         | 6                             | 0    | 91   | 0    | 97         | 351        |
| 16:30                                                | 142                      | 23   | 0    | 2    | 167        | 0         | 0    | 0    | 0    | 0          | 0                        | 14   | 1    | 0    | 15         | 6                             | 0    | 105  | 0    | 111        | 293        |
| 16:45                                                | 144                      | 21   | 0    | 1    | 166        | 0         | 0    | 0    | 0    | 0          | 0                        | 8    | 2    | 0    | 10         | 4                             | 0    | 117  | 0    | 121        | 297        |
| Total Volume                                         | 663                      | 83   | 0    | 4    | 750        | 0         | 0    | 0    | 0    | 0          | 0                        | 48   | 19   | 0    | 67         | 20                            | 0    | 400  | 0    | 420        | 1237       |
| % App. Total                                         | 88.4                     | 11.1 | 0    | 0.5  |            | 0         | 0    | 0    | 0    |            | 0                        | 71.6 | 28.4 | 0    |            | 4.8                           | 0    | 95.2 | 0    |            |            |
| PHF                                                  | .789                     | .902 | .000 | .500 | .805       | .000      | .000 | .000 | .000 | .000       | .000                     | .750 | .432 | .000 | .798       | .833                          | .000 | .855 | .000 | .868       | .881       |



# LSC Transportation Consultants, Inc.

2504 E. Pikes Peak Ave, Suite 304  
Colorado Springs, CO 80909  
719-633-2868

File Name : Crystal valley Pkwy -W Loop Rd AM

Site Code : D260010

Start Date : 1/15/2026

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## Groups Printed- Unshifted

|             | Rhyolite Park Access<br>Southbound |      |      |      |            | Crystal Valley Pkwy<br>Westbound |      |      |      |            | W Loop Rd<br>Northbound |      |      |      |            | Crystal Valley Pkwy<br>Eastbound |      |      |      |            |            |
|-------------|------------------------------------|------|------|------|------------|----------------------------------|------|------|------|------------|-------------------------|------|------|------|------------|----------------------------------|------|------|------|------------|------------|
| Start Time  | Right                              | Thru | Left | Peds | App. Total | Right                            | Thru | Left | Peds | App. Total | Right                   | Thru | Left | Peds | App. Total | Right                            | Thru | Left | Peds | App. Total | Int. Total |
| 06:30       | 0                                  | 0    | 0    | 0    | 0          | 0                                | 11   | 3    | 0    | 14         | 35                      | 3    | 25   | 0    | 63         | 10                               | 10   | 0    | 0    | 20         | 97         |
| 06:45       | 2                                  | 1    | 2    | 0    | 5          | 1                                | 21   | 6    | 0    | 28         | 34                      | 2    | 45   | 0    | 81         | 10                               | 9    | 0    | 0    | 19         | 133        |
| Total       | 2                                  | 1    | 2    | 0    | 5          | 1                                | 32   | 9    | 0    | 42         | 69                      | 5    | 70   | 0    | 144        | 20                               | 19   | 0    | 0    | 39         | 230        |
| 07:00       | 1                                  | 1    | 0    | 0    | 2          | 0                                | 14   | 10   | 0    | 24         | 36                      | 1    | 49   | 0    | 86         | 5                                | 8    | 1    | 0    | 14         | 126        |
| 07:15       | 2                                  | 1    | 1    | 0    | 4          | 2                                | 23   | 7    | 1    | 33         | 37                      | 2    | 58   | 0    | 97         | 4                                | 8    | 1    | 0    | 13         | 147        |
| 07:30       | 0                                  | 0    | 0    | 0    | 0          | 0                                | 46   | 12   | 0    | 58         | 10                      | 0    | 70   | 0    | 80         | 8                                | 6    | 0    | 0    | 14         | 152        |
| 07:45       | 0                                  | 1    | 0    | 0    | 1          | 1                                | 32   | 14   | 0    | 47         | 26                      | 0    | 56   | 0    | 82         | 11                               | 9    | 0    | 0    | 20         | 150        |
| Total       | 3                                  | 3    | 1    | 0    | 7          | 3                                | 115  | 43   | 1    | 162        | 109                     | 3    | 233  | 0    | 345        | 28                               | 31   | 2    | 0    | 61         | 575        |
| 08:00       | 0                                  | 0    | 1    | 0    | 1          | 0                                | 16   | 22   | 0    | 38         | 27                      | 0    | 21   | 0    | 48         | 33                               | 21   | 0    | 0    | 54         | 141        |
| 08:15       | 1                                  | 1    | 0    | 1    | 3          | 0                                | 17   | 13   | 0    | 30         | 40                      | 1    | 32   | 0    | 73         | 17                               | 10   | 0    | 2    | 29         | 135        |
| Grand Total | 6                                  | 5    | 4    | 1    | 16         | 4                                | 180  | 87   | 1    | 272        | 245                     | 9    | 356  | 0    | 610        | 98                               | 81   | 2    | 2    | 183        | 1081       |
| Apprch %    | 37.5                               | 31.2 | 25   | 6.2  |            | 1.5                              | 66.2 | 32   | 0.4  |            | 40.2                    | 1.5  | 58.4 | 0    |            | 53.6                             | 44.3 | 1.1  | 1.1  |            |            |
| Total %     | 0.6                                | 0.5  | 0.4  | 0.1  | 1.5        | 0.4                              | 16.7 | 8    | 0.1  | 25.2       | 22.7                    | 0.8  | 32.9 | 0    | 56.4       | 9.1                              | 7.5  | 0.2  | 0.2  | 16.9       |            |

# LSC Transportation Consultants, Inc.

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719-633-2868

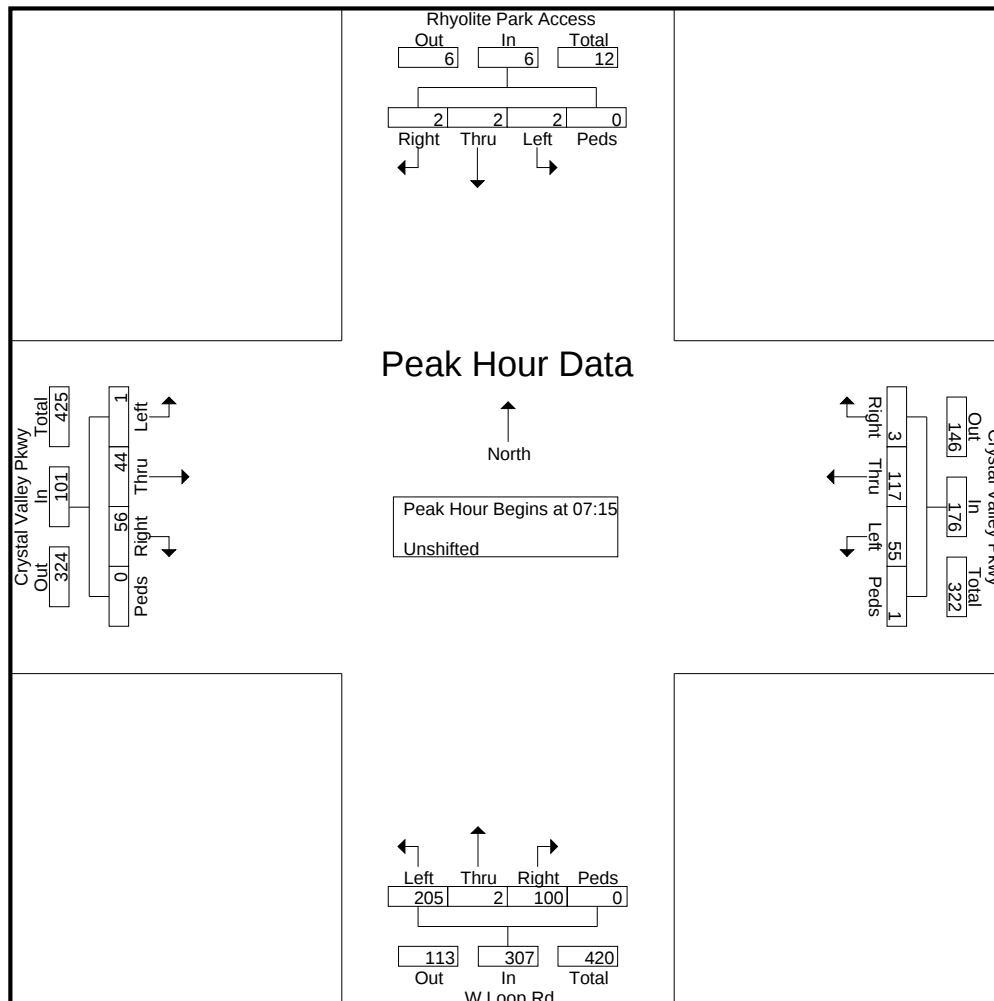
File Name : Crystal valley Pkwy -W Loop Rd AM

Site Code : D260010

Start Date : 1/15/2026

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|                                                      | Rhyolite Park Access<br>Southbound |      |      |      |            | Crystal Valley Pkwy<br>Westbound |      |      |      |            | W Loop Rd<br>Northbound |      |      |      |            | Crystal Valley Pkwy<br>Eastbound |      |      |      |            |            |
|------------------------------------------------------|------------------------------------|------|------|------|------------|----------------------------------|------|------|------|------------|-------------------------|------|------|------|------------|----------------------------------|------|------|------|------------|------------|
| Start Time                                           | Right                              | Thru | Left | Peds | App. Total | Right                            | Thru | Left | Peds | App. Total | Right                   | Thru | Left | Peds | App. Total | Right                            | Thru | Left | Peds | App. Total | Int. Total |
| Peak Hour Analysis From 06:30 to 08:15 - Peak 1 of 1 |                                    |      |      |      |            |                                  |      |      |      |            |                         |      |      |      |            |                                  |      |      |      |            |            |
| Peak Hour for Entire Intersection Begins at 07:15    |                                    |      |      |      |            |                                  |      |      |      |            |                         |      |      |      |            |                                  |      |      |      |            |            |
| 07:15                                                | 2                                  | 1    | 1    | 0    | 4          | 2                                | 23   | 7    | 1    | 33         | 37                      | 2    | 58   | 0    | 97         | 4                                | 8    | 1    | 0    | 13         | 147        |
| 07:30                                                | 0                                  | 0    | 0    | 0    | 0          | 0                                | 46   | 12   | 0    | 58         | 10                      | 0    | 70   | 0    | 80         | 8                                | 6    | 0    | 0    | 14         | 152        |
| 07:45                                                | 0                                  | 1    | 0    | 0    | 1          | 1                                | 32   | 14   | 0    | 47         | 26                      | 0    | 56   | 0    | 82         | 11                               | 9    | 0    | 0    | 20         | 150        |
| 08:00                                                | 0                                  | 0    | 1    | 0    | 1          | 0                                | 16   | 22   | 0    | 38         | 27                      | 0    | 21   | 0    | 48         | 33                               | 21   | 0    | 0    | 54         | 141        |
| Total Volume                                         | 2                                  | 2    | 2    | 0    | 6          | 3                                | 117  | 55   | 1    | 176        | 100                     | 2    | 205  | 0    | 307        | 56                               | 44   | 1    | 0    | 101        | 590        |
| % App. Total                                         | 33.3                               | 33.3 | 33.3 | 0    |            | 1.7                              | 66.5 | 31.2 | 0.6  |            | 32.6                    | 0.7  | 66.8 | 0    |            | 55.4                             | 43.6 | 1    | 0    |            |            |
| PHF                                                  | .250                               | .500 | .500 | .000 | .375       | .375                             | .636 | .625 | .250 | .759       | .676                    | .250 | .732 | .000 | .791       | .424                             | .524 | .250 | .000 | .468       | .970       |



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File Name : Crystal valley Pkwy -W Loop Rd PM

Site Code : D260010

Start Date : 1/14/2026

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## Groups Printed- Unshifted

|             | Rhyolite Park Access<br>Southbound |      |      |      |            | Crystal Valley Pkwy<br>Westbound |      |      |      |            | W Loop Rd<br>Northbound |      |      |      |            | Crystal Valley Pkwy<br>Eastbound |      |      |      |            |            |
|-------------|------------------------------------|------|------|------|------------|----------------------------------|------|------|------|------------|-------------------------|------|------|------|------------|----------------------------------|------|------|------|------------|------------|
| Start Time  | Right                              | Thru | Left | Peds | App. Total | Right                            | Thru | Left | Peds | App. Total | Right                   | Thru | Left | Peds | App. Total | Right                            | Thru | Left | Peds | App. Total | Int. Total |
| 16:00       | 5                                  | 2    | 4    | 0    | 11         | 1                                | 15   | 29   | 0    | 45         | 17                      | 1    | 19   | 0    | 37         | 37                               | 25   | 2    | 0    | 64         | 157        |
| 16:15       | 0                                  | 0    | 3    | 0    | 3          | 0                                | 23   | 46   | 0    | 69         | 25                      | 0    | 24   | 0    | 49         | 47                               | 15   | 4    | 1    | 67         | 188        |
| 16:30       | 3                                  | 0    | 0    | 0    | 3          | 3                                | 19   | 31   | 0    | 53         | 26                      | 0    | 29   | 0    | 55         | 37                               | 26   | 2    | 0    | 65         | 176        |
| 16:45       | 1                                  | 0    | 1    | 0    | 2          | 0                                | 19   | 34   | 0    | 53         | 20                      | 0    | 25   | 0    | 45         | 38                               | 33   | 0    | 0    | 71         | 171        |
| Total       | 9                                  | 2    | 8    | 0    | 19         | 4                                | 76   | 140  | 0    | 220        | 88                      | 1    | 97   | 0    | 186        | 159                              | 99   | 8    | 1    | 267        | 692        |
| 17:00       | 3                                  | 1    | 0    | 0    | 4          | 0                                | 23   | 35   | 0    | 58         | 23                      | 0    | 24   | 0    | 47         | 62                               | 31   | 0    | 0    | 93         | 202        |
| 17:15       | 2                                  | 0    | 1    | 0    | 3          | 0                                | 21   | 38   | 0    | 59         | 20                      | 1    | 25   | 0    | 46         | 39                               | 19   | 0    | 1    | 59         | 167        |
| 17:30       | 0                                  | 0    | 0    | 0    | 0          | 0                                | 12   | 34   | 0    | 46         | 15                      | 0    | 14   | 0    | 29         | 46                               | 16   | 0    | 0    | 62         | 137        |
| 17:45       | 0                                  | 0    | 0    | 0    | 0          | 1                                | 9    | 22   | 0    | 32         | 20                      | 0    | 25   | 0    | 45         | 38                               | 26   | 0    | 0    | 64         | 141        |
| Total       | 5                                  | 1    | 1    | 0    | 7          | 1                                | 65   | 129  | 0    | 195        | 78                      | 1    | 88   | 0    | 167        | 185                              | 92   | 0    | 1    | 278        | 647        |
| Grand Total | 14                                 | 3    | 9    | 0    | 26         | 5                                | 141  | 269  | 0    | 415        | 166                     | 2    | 185  | 0    | 353        | 344                              | 191  | 8    | 2    | 545        | 1339       |
| Apprch %    | 53.8                               | 11.5 | 34.6 | 0    |            | 1.2                              | 34   | 64.8 | 0    |            | 47                      | 0.6  | 52.4 | 0    |            | 63.1                             | 35   | 1.5  | 0.4  |            |            |
| Total %     | 1                                  | 0.2  | 0.7  | 0    | 1.9        | 0.4                              | 10.5 | 20.1 | 0    | 31         | 12.4                    | 0.1  | 13.8 | 0    | 26.4       | 25.7                             | 14.3 | 0.6  | 0.1  | 40.7       |            |

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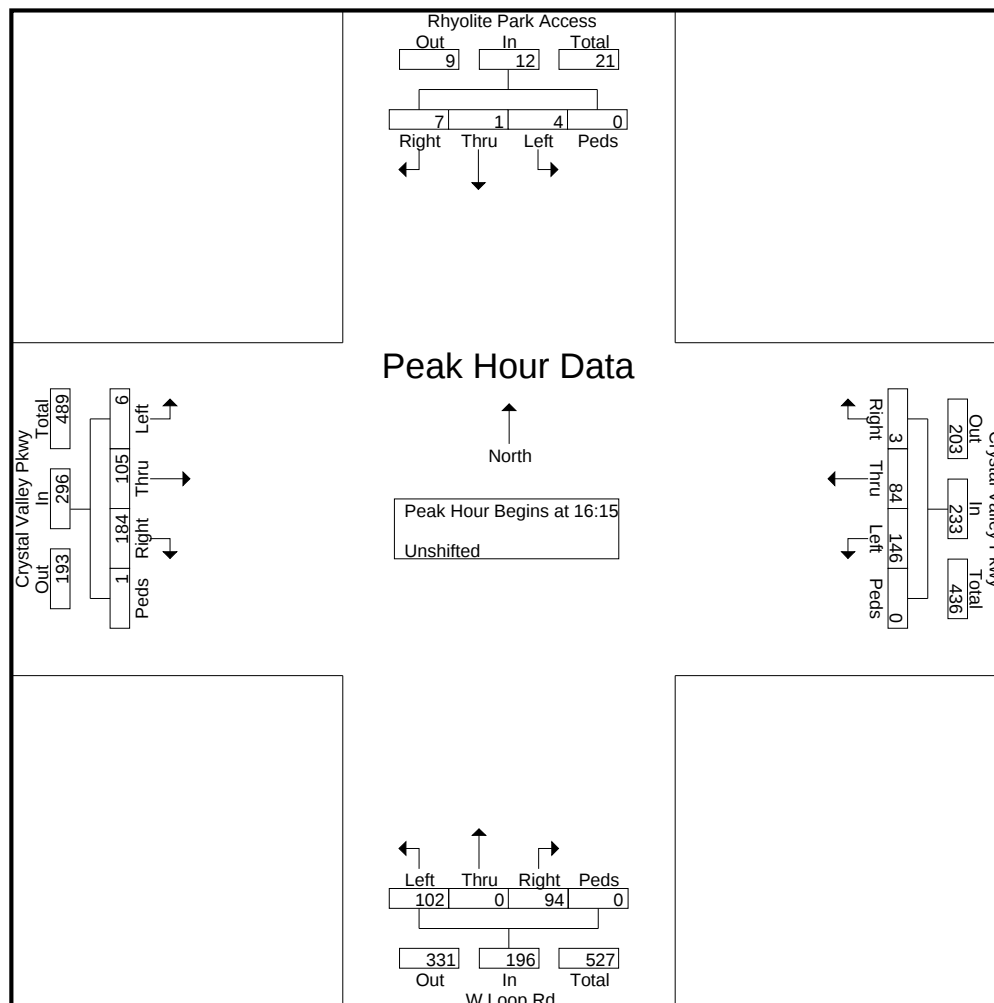
File Name : Crystal valley Pkwy -W Loop Rd PM

Site Code : D260010

Start Date : 1/14/2026

Page No : 2

|                                                      | Rhyolite Park Access<br>Southbound |      |      |      |            | Crystal Valley Pkwy<br>Westbound |      |      |      |            | W Loop Rd<br>Northbound |      |      |      |            | Crystal Valley Pkwy<br>Eastbound |      |      |      |            |            |
|------------------------------------------------------|------------------------------------|------|------|------|------------|----------------------------------|------|------|------|------------|-------------------------|------|------|------|------------|----------------------------------|------|------|------|------------|------------|
| Start Time                                           | Right                              | Thru | Left | Peds | App. Total | Right                            | Thru | Left | Peds | App. Total | Right                   | Thru | Left | Peds | App. Total | Right                            | Thru | Left | Peds | App. Total | Int. Total |
| Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1 |                                    |      |      |      |            |                                  |      |      |      |            |                         |      |      |      |            |                                  |      |      |      |            |            |
| Peak Hour for Entire Intersection Begins at 16:15    |                                    |      |      |      |            |                                  |      |      |      |            |                         |      |      |      |            |                                  |      |      |      |            |            |
| 16:15                                                | 0                                  | 0    | 3    | 0    | 3          | 0                                | 23   | 46   | 0    | 69         | 25                      | 0    | 24   | 0    | 49         | 47                               | 15   | 4    | 1    | 67         | 188        |
| 16:30                                                | 3                                  | 0    | 0    | 0    | 3          | 3                                | 19   | 31   | 0    | 53         | 26                      | 0    | 29   | 0    | 55         | 37                               | 26   | 2    | 0    | 65         | 176        |
| 16:45                                                | 1                                  | 0    | 1    | 0    | 2          | 0                                | 19   | 34   | 0    | 53         | 20                      | 0    | 25   | 0    | 45         | 38                               | 33   | 0    | 0    | 71         | 171        |
| 17:00                                                | 3                                  | 1    | 0    | 0    | 4          | 0                                | 23   | 35   | 0    | 58         | 23                      | 0    | 24   | 0    | 47         | 62                               | 31   | 0    | 0    | 93         | 202        |
| Total Volume                                         | 7                                  | 1    | 4    | 0    | 12         | 3                                | 84   | 146  | 0    | 233        | 94                      | 0    | 102  | 0    | 196        | 184                              | 105  | 6    | 1    | 296        | 737        |
| % App. Total                                         | 58.3                               | 8.3  | 33.3 | 0    |            | 1.3                              | 36.1 | 62.7 | 0    |            | 48                      | 0    | 52   | 0    |            | 62.2                             | 35.5 | 2    | 0.3  |            |            |
| PHF                                                  | .583                               | .250 | .333 | .000 | .750       | .250                             | .913 | .793 | .000 | .844       | .904                    | .000 | .879 | .000 | .891       | .742                             | .795 | .375 | .250 | .796       | .912       |



# LEVEL OF SERVICE DEFINITIONS

From *Highway Capacity Manual*, Transportation Research Board

## SIGNALIZED INTERSECTION LEVEL OF SERVICE (LOS)

| <u>LOS</u> | <u>Average<br/>Vehicle Delay</u><br>sec/vehicle | <u>Operational Characteristics</u>                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|------------|-------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>A</b>   | <10 seconds                                     | Describes operations with low control delay, up to 10 sec/veh. This LOS occurs when progression is extremely favorable and most vehicles arrive during the green phase. Many vehicles do not stop at all. Short cycle lengths may tend to contribute to low delay values.                                                                                                                                                                                              |
| <b>B</b>   | 10 to 20 seconds                                | Describes operations with control delay greater than 10 seconds and up to 20 sec/veh. This level generally occurs with good progression, short cycle lengths, or both. More vehicles stop than with LOS A, causing higher levels of delay.                                                                                                                                                                                                                             |
| <b>C</b>   | 20 to 35 seconds                                | Describes operations with control delay greater than 20 and up to 35 sec/veh. These higher delays may result from only fair progression, longer cycle length, or both. Individual cycle failures may begin to appear at this level. Cycle failure occurs when a given green phase does not serve queued vehicles, and overflows occur. The number of vehicles stopping is significant at this level, though many still pass through the intersection without stopping. |
| <b>D</b>   | 35 to 55 seconds                                | Describes operations with control delay greater than 35 and up to 55 sec/veh. At LOS D, the influence of congestion becomes more noticeable. Longer delays may result from some combination of unfavorable progression, long cycle lengths, and high v/c ratios. Many vehicles stop, and the proportion of vehicles not stopping declines. Individual cycle failures are noticeable.                                                                                   |
| <b>E</b>   | 55 to 80 seconds                                | Describes operations with control delay greater than 55 and up to 80 sec/veh. These high delay values generally indicate poor progression, long cycle lengths, and high v/c ratios. Individual cycle failures are frequent.                                                                                                                                                                                                                                            |
| <b>F</b>   | >80 seconds                                     | Describes operations with control delay in excess of 80 sec/veh. This level, considered unacceptable to most drivers, often occurs with over-saturation, that is, when arrival flow rates exceed the capacity of lane groups. It may also occur at high v/c ratios with many individual cycle failures. Poor progression and long cycle lengths may also contribute significantly to high delay levels.                                                                |

## LEVEL OF SERVICE DEFINITIONS

From *Highway Capacity Manual*, Transportation Research Board

### UNSIGNALIZED INTERSECTION LEVEL OF SERVICE (LOS)

Applicable to Two-Way Stop Control, All-Way Stop Control, and Roundabouts

| LOS | Average Vehicle Control Delay | Operational Characteristics                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|-----|-------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| A   | <10 seconds                   | Normally, vehicles on the stop-controlled approach only have to wait up to 10 seconds before being able to clear the intersection. Left-turning vehicles on the uncontrolled street do not have to wait to make their turn.                                                                                                                                                                                                                                                                                                                     |
| B   | 10 to 15 seconds              | Vehicles on the stop-controlled approach will experience delays before being able to clear the intersection. <u>The delay could be up to 15 seconds.</u> Left-turning vehicles on the uncontrolled street may have to wait to make their turn.                                                                                                                                                                                                                                                                                                  |
| C   | 15 to 25 seconds              | Vehicles on the stop-controlled approach can expect delays in the range of 15 to 25 seconds before clearing the intersection. Motorists may begin to take chances due to the long delays, thereby posing a safety risk to through traffic. <u>Left-turning vehicles on the uncontrolled street will now be required to wait to make their turn causing a queue to be created in the turn lane.</u>                                                                                                                                              |
| D   | 25 to 35 seconds              | <u>This is the point at which a traffic signal may be warranted for this intersection.</u> The delays for the stop-controlled intersection are not considered to be excessive. The length of the queue may begin to block other public and private access points.                                                                                                                                                                                                                                                                               |
| E   | 35 to 50 seconds              | The delays for all critical traffic movements are considered to be unacceptable. The length of the queues for the stop-controlled approaches as well as the left-turn movements are extremely long. <u>There is a high probability that this intersection will meet traffic signal warrants.</u> The ability to install a traffic signal is affected by the location of other existing traffic signals. Consideration may be given to restricting the accesses by eliminating the left-turn movements from and to the stop-controlled approach. |
| F   | >50 seconds                   | The delay for the critical traffic movements are probably in excess of 100 seconds. The length of the queues are extremely long. Motorists are selecting alternative routes due to the long delays. <u>The only remedy for these long delays is installing a traffic signal or restricting the accesses.</u> The potential for accidents at this intersection are extremely high due to motorist taking more risky chances. If the median permits, motorists begin making two-stage left-turns.                                                 |

HCM 6th TWSC  
1: Loop Rd & Crystal Valley Pkwy

Existing  
AM Peak

| Intersection             |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
|--------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|
| Int Delay, s/veh         | 6.1                                                                               |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Movement                 | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | WBR                                                                               | NBL                                                                               | NBT                                                                               | NBR                                                                               | SBL                                                                               | SBT                                                                               | SBR                                                                               |
| Lane Configurations      |  |  |  |  |  |  |  |  |  |  |  |  |
| Traffic Vol, veh/h       | 0                                                                                 | 100                                                                               | 69                                                                                | 61                                                                                | 122                                                                               | 1                                                                                 | 179                                                                               | 1                                                                                 | 103                                                                               | 1                                                                                 | 2                                                                                 | 1                                                                                 |
| Future Vol, veh/h        | 0                                                                                 | 100                                                                               | 69                                                                                | 61                                                                                | 122                                                                               | 1                                                                                 | 179                                                                               | 1                                                                                 | 103                                                                               | 1                                                                                 | 2                                                                                 | 1                                                                                 |
| Conflicting Peds, #/hr   | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 |
| Sign Control             | Free                                                                              | Free                                                                              | Free                                                                              | Free                                                                              | Free                                                                              | Free                                                                              | Stop                                                                              | Stop                                                                              | Stop                                                                              | Stop                                                                              | Stop                                                                              | Stop                                                                              |
| RT Channelized           | -                                                                                 | -                                                                                 | None                                                                              | -                                                                                 | -                                                                                 | None                                                                              | -                                                                                 | -                                                                                 | None                                                                              | -                                                                                 | -                                                                                 | None                                                                              |
| Storage Length           | 280                                                                               | -                                                                                 | 280                                                                               | 410                                                                               | -                                                                                 | -                                                                                 | 315                                                                               | -                                                                                 | 0                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 |
| Veh in Median Storage, # | -                                                                                 | 0                                                                                 | -                                                                                 | -                                                                                 | 0                                                                                 | -                                                                                 | -                                                                                 | 0                                                                                 | -                                                                                 | -                                                                                 | 0                                                                                 | -                                                                                 |
| Grade, %                 | -                                                                                 | 0                                                                                 | -                                                                                 | -                                                                                 | 0                                                                                 | -                                                                                 | -                                                                                 | 0                                                                                 | -                                                                                 | -                                                                                 | 0                                                                                 | -                                                                                 |
| Peak Hour Factor         | 95                                                                                | 95                                                                                | 95                                                                                | 95                                                                                | 95                                                                                | 95                                                                                | 95                                                                                | 95                                                                                | 95                                                                                | 95                                                                                | 95                                                                                | 95                                                                                |
| Heavy Vehicles, %        | 2                                                                                 | 2                                                                                 | 2                                                                                 | 2                                                                                 | 2                                                                                 | 2                                                                                 | 2                                                                                 | 2                                                                                 | 2                                                                                 | 2                                                                                 | 2                                                                                 | 2                                                                                 |
| Mvmt Flow                | 0                                                                                 | 105                                                                               | 73                                                                                | 64                                                                                | 128                                                                               | 1                                                                                 | 188                                                                               | 1                                                                                 | 108                                                                               | 1                                                                                 | 2                                                                                 | 1                                                                                 |

| Major/Minor          | Major1 |   |   | Major2 |   |   | Minor1 |      |      | Minor2 |      |      |
|----------------------|--------|---|---|--------|---|---|--------|------|------|--------|------|------|
| Conflicting Flow All | 129    | 0 | 0 | 178    | 0 | 0 | 298    | 362  | 53   | 310    | 435  | 65   |
| Stage 1              | -      | - | - | -      | - | - | 105    | 105  | -    | 257    | 257  | -    |
| Stage 2              | -      | - | - | -      | - | - | 193    | 257  | -    | 53     | 178  | -    |
| Critical Hdwy        | 4.14   | - | - | 4.14   | - | - | 7.54   | 6.54 | 6.94 | 7.54   | 6.54 | 6.94 |
| Critical Hdwy Stg 1  | -      | - | - | -      | - | - | 6.54   | 5.54 | -    | 6.54   | 5.54 | -    |
| Critical Hdwy Stg 2  | -      | - | - | -      | - | - | 6.54   | 5.54 | -    | 6.54   | 5.54 | -    |
| Follow-up Hdwy       | 2.22   | - | - | 2.22   | - | - | 3.52   | 4.02 | 3.32 | 3.52   | 4.02 | 3.32 |
| Pot Cap-1 Maneuver   | 1454   | - | - | 1395   | - | - | 632    | 564  | 1003 | 619    | 513  | 986  |
| Stage 1              | -      | - | - | -      | - | - | 889    | 807  | -    | 725    | 694  | -    |
| Stage 2              | -      | - | - | -      | - | - | 790    | 694  | -    | 953    | 751  | -    |
| Platoon blocked, %   | -      | - | - | -      | - | - | -      | -    | -    | -      | -    | -    |
| Mov Cap-1 Maneuver   | 1454   | - | - | 1395   | - | - | 607    | 538  | 1003 | 532    | 489  | 986  |
| Mov Cap-2 Maneuver   | -      | - | - | -      | - | - | 607    | 538  | -    | 532    | 489  | -    |
| Stage 1              | -      | - | - | -      | - | - | 889    | 807  | -    | 725    | 662  | -    |
| Stage 2              | -      | - | - | -      | - | - | 751    | 662  | -    | 849    | 751  | -    |

| Approach             | EB |   |   | WB  |   |   | NB   |   |   | SB   |   |   |
|----------------------|----|---|---|-----|---|---|------|---|---|------|---|---|
| HCM Control Delay, s | 0  | - | - | 2.6 | - | - | 11.9 | - | - | 11.3 | - | - |
| HCM LOS              | -  | - | - | -   | - | - | B    | - | - | B    | - | - |

| Minor Lane/Major Mvmt | NBLn1 | NBLn2 | NBLn3 | EBL  | EBT | EBR | WBL   | WBT | WBR | SBLn1 |
|-----------------------|-------|-------|-------|------|-----|-----|-------|-----|-----|-------|
| Capacity (veh/h)      | 607   | 538   | 1003  | 1454 | -   | -   | 1395  | -   | -   | 573   |
| HCM Lane V/C Ratio    | 0.31  | 0.002 | 0.108 | -    | -   | -   | 0.046 | -   | -   | 0.007 |
| HCM Control Delay (s) | 13.6  | 11.7  | 9     | 0    | -   | -   | 7.7   | -   | -   | 11.3  |
| HCM Lane LOS          | B     | B     | A     | A    | -   | -   | A     | -   | -   | B     |
| HCM 95th %tile Q(veh) | 1.3   | 0     | 0.4   | 0    | -   | -   | 0.1   | -   | -   | 0     |

HCM 6th TWSC  
2: Idylwood St & Crystal Valley Pkwy

Existing  
AM Peak

| Intersection             |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |
|--------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Int Delay, s/veh         | 2.6                                                                               |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |
| Movement                 | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | WBR                                                                               | NBL                                                                               | NBT                                                                               | NBR                                                                               | SBL                                                                                 | SBT                                                                                 | SBR                                                                                 |
| Lane Configurations      |  |  |  |  |  |  |  |  |  |  |  |  |
| Traffic Vol, veh/h       | 4                                                                                 | 192                                                                               | 8                                                                                 | 15                                                                                | 148                                                                               | 5                                                                                 | 25                                                                                | 0                                                                                 | 38                                                                                | 20                                                                                  | 0                                                                                   | 11                                                                                  |
| Future Vol, veh/h        | 4                                                                                 | 192                                                                               | 8                                                                                 | 15                                                                                | 148                                                                               | 5                                                                                 | 25                                                                                | 0                                                                                 | 38                                                                                | 20                                                                                  | 0                                                                                   | 11                                                                                  |
| Conflicting Peds, #/hr   | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                   | 0                                                                                   | 0                                                                                   |
| Sign Control             | Free                                                                              | Free                                                                              | Free                                                                              | Free                                                                              | Free                                                                              | Free                                                                              | Stop                                                                              | Stop                                                                              | Stop                                                                              | Stop                                                                                | Stop                                                                                | Stop                                                                                |
| RT Channelized           | -                                                                                 | -                                                                                 | None                                                                              | -                                                                                 | -                                                                                 | None                                                                              | -                                                                                 | -                                                                                 | None                                                                              | -                                                                                   | -                                                                                   | None                                                                                |
| Storage Length           | 255                                                                               | -                                                                                 | 285                                                                               | 225                                                                               | -                                                                                 | 315                                                                               | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                   | -                                                                                   | -                                                                                   |
| Veh in Median Storage, # | -                                                                                 | 0                                                                                 | -                                                                                 | -                                                                                 | 0                                                                                 | -                                                                                 | -                                                                                 | 0                                                                                 | -                                                                                 | -                                                                                   | 0                                                                                   | -                                                                                   |
| Grade, %                 | -                                                                                 | 0                                                                                 | -                                                                                 | -                                                                                 | 0                                                                                 | -                                                                                 | -                                                                                 | 0                                                                                 | -                                                                                 | -                                                                                   | 0                                                                                   | -                                                                                   |
| Peak Hour Factor         | 80                                                                                | 80                                                                                | 80                                                                                | 80                                                                                | 80                                                                                | 80                                                                                | 80                                                                                | 80                                                                                | 80                                                                                | 80                                                                                  | 80                                                                                  | 80                                                                                  |
| Heavy Vehicles, %        | 2                                                                                 | 2                                                                                 | 2                                                                                 | 2                                                                                 | 2                                                                                 | 2                                                                                 | 2                                                                                 | 2                                                                                 | 2                                                                                 | 2                                                                                   | 2                                                                                   | 2                                                                                   |
| Mvmt Flow                | 5                                                                                 | 240                                                                               | 10                                                                                | 19                                                                                | 185                                                                               | 6                                                                                 | 31                                                                                | 0                                                                                 | 48                                                                                | 25                                                                                  | 0                                                                                   | 14                                                                                  |

| Major/Minor          | Major1 |   |   | Major2 |   |   | Minor1 |       |       | Minor2 |       |       |
|----------------------|--------|---|---|--------|---|---|--------|-------|-------|--------|-------|-------|
| Conflicting Flow All | 191    | 0 | 0 | 250    | 0 | 0 | 483    | 479   | 240   | 502    | 483   | 185   |
| Stage 1              | -      | - | - | -      | - | - | 250    | 250   | -     | 223    | 223   | -     |
| Stage 2              | -      | - | - | -      | - | - | 233    | 229   | -     | 279    | 260   | -     |
| Critical Hdwy        | 4.12   | - | - | 4.12   | - | - | 7.12   | 6.52  | 6.22  | 7.12   | 6.52  | 6.22  |
| Critical Hdwy Stg 1  | -      | - | - | -      | - | - | 6.12   | 5.52  | -     | 6.12   | 5.52  | -     |
| Critical Hdwy Stg 2  | -      | - | - | -      | - | - | 6.12   | 5.52  | -     | 6.12   | 5.52  | -     |
| Follow-up Hdwy       | 2.218  | - | - | 2.218  | - | - | 3.518  | 4.018 | 3.318 | 3.518  | 4.018 | 3.318 |
| Pot Cap-1 Maneuver   | 1383   | - | - | 1316   | - | - | 494    | 486   | 799   | 480    | 483   | 857   |
| Stage 1              | -      | - | - | -      | - | - | 754    | 700   | -     | 780    | 719   | -     |
| Stage 2              | -      | - | - | -      | - | - | 770    | 715   | -     | 728    | 693   | -     |
| Platoon blocked, %   | -      | - | - | -      | - | - | -      | -     | -     | -      | -     | -     |
| Mov Cap-1 Maneuver   | 1383   | - | - | 1316   | - | - | 479    | 477   | 799   | 445    | 474   | 857   |
| Mov Cap-2 Maneuver   | -      | - | - | -      | - | - | 479    | 477   | -     | 445    | 474   | -     |
| Stage 1              | -      | - | - | -      | - | - | 751    | 697   | -     | 777    | 709   | -     |
| Stage 2              | -      | - | - | -      | - | - | 747    | 705   | -     | 682    | 690   | -     |

| Approach             | EB  |   |   | WB  |   |   | NB   |   |   | SB   |   |   |
|----------------------|-----|---|---|-----|---|---|------|---|---|------|---|---|
| HCM Control Delay, s | 0.1 | - | - | 0.7 | - | - | 11.1 | - | - | 12.2 | - | - |
| HCM LOS              | -   | - | - | -   | - | - | B    | - | - | B    | - | - |

| Minor Lane/Major Mvmt | NBLn1 | NBLn2 | EBL   | EBT | EBR | WBL   | WBT | WBR | SBLn1 |
|-----------------------|-------|-------|-------|-----|-----|-------|-----|-----|-------|
| Capacity (veh/h)      | 479   | 799   | 1383  | -   | -   | 1316  | -   | -   | 537   |
| HCM Lane V/C Ratio    | 0.065 | 0.059 | 0.004 | -   | -   | 0.014 | -   | -   | 0.072 |
| HCM Control Delay (s) | 13    | 9.8   | 7.6   | -   | -   | 7.8   | -   | -   | 12.2  |
| HCM Lane LOS          | B     | A     | A     | -   | -   | A     | -   | -   | B     |
| HCM 95th %tile Q(veh) | 0.2   | 0.2   | 0     | -   | -   | 0     | -   | -   | 0.2   |

# HCM 6th AWSC

## 3: Lake Gulch Rd & Crystal Valley Pkwy

Existing  
AM Peak

### Intersection

|                           |      |
|---------------------------|------|
| Intersection Delay, s/veh | 87.4 |
| Intersection LOS          | F    |

| Movement            | EBL                                                                               | EBR                                                                               | NBL                                                                               | NBT                                                                               | SBT                                                                               | SBR                                                                               |
|---------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|
| Lane Configurations |  |  |  |  |  |  |
| Traffic Vol, veh/h  | 636                                                                               | 9                                                                                 | 5                                                                                 | 79                                                                                | 39                                                                                | 305                                                                               |
| Future Vol, veh/h   | 636                                                                               | 9                                                                                 | 5                                                                                 | 79                                                                                | 39                                                                                | 305                                                                               |
| Peak Hour Factor    | 0.93                                                                              | 0.93                                                                              | 0.93                                                                              | 0.93                                                                              | 0.93                                                                              | 0.93                                                                              |
| Heavy Vehicles, %   | 2                                                                                 | 2                                                                                 | 2                                                                                 | 2                                                                                 | 2                                                                                 | 2                                                                                 |
| Mvmt Flow           | 684                                                                               | 10                                                                                | 5                                                                                 | 85                                                                                | 42                                                                                | 328                                                                               |
| Number of Lanes     | 1                                                                                 | 1                                                                                 | 1                                                                                 | 1                                                                                 | 1                                                                                 | 1                                                                                 |

| Approach                   | EB    | NB   | SB   |
|----------------------------|-------|------|------|
| Opposing Approach          |       | SB   | NB   |
| Opposing Lanes             | 0     | 2    | 2    |
| Conflicting Approach Left  | SB    | EB   |      |
| Conflicting Lanes Left     | 2     | 2    | 0    |
| Conflicting Approach Right | NB    |      | EB   |
| Conflicting Lanes Right    | 2     | 0    | 2    |
| HCM Control Delay          | 135.4 | 11.9 | 15.8 |
| HCM LOS                    | F     | B    | C    |

| Lane                   | NBLn1 | NBLn2 | EBLn1 | EBLn2 | SBLn1 | SBLn2 |
|------------------------|-------|-------|-------|-------|-------|-------|
| Vol Left, %            | 100%  | 0%    | 100%  | 0%    | 0%    | 0%    |
| Vol Thru, %            | 0%    | 100%  | 0%    | 0%    | 100%  | 0%    |
| Vol Right, %           | 0%    | 0%    | 0%    | 100%  | 0%    | 100%  |
| Sign Control           | Stop  | Stop  | Stop  | Stop  | Stop  | Stop  |
| Traffic Vol by Lane    | 5     | 79    | 636   | 9     | 39    | 305   |
| LT Vol                 | 5     | 0     | 636   | 0     | 0     | 0     |
| Through Vol            | 0     | 79    | 0     | 0     | 39    | 0     |
| RT Vol                 | 0     | 0     | 0     | 9     | 0     | 305   |
| Lane Flow Rate         | 5     | 85    | 684   | 10    | 42    | 328   |
| Geometry Grp           | 5     | 5     | 5     | 5     | 5     | 5     |
| Degree of Util (X)     | 0.011 | 0.166 | 1.223 | 0.014 | 0.077 | 0.538 |
| Departure Headway (Hd) | 8.305 | 7.788 | 6.436 | 5.227 | 7.207 | 6.489 |
| Convergence, Y/N       | Yes   | Yes   | Yes   | Yes   | Yes   | Yes   |
| Cap                    | 434   | 464   | 568   | 689   | 500   | 561   |
| Service Time           | 6.005 | 5.488 | 4.136 | 2.927 | 4.907 | 4.189 |
| HCM Lane V/C Ratio     | 0.012 | 0.183 | 1.204 | 0.015 | 0.084 | 0.585 |
| HCM Control Delay      | 11.1  | 12    | 137.2 | 8     | 10.5  | 16.5  |
| HCM Lane LOS           | B     | B     | F     | A     | B     | C     |
| HCM 95th-tile Q        | 0     | 0.6   | 25.6  | 0     | 0.2   | 3.2   |

HCM 6th TWSC  
1: Loop Rd & Crystal Valley Pkwy

Existing  
PM Peak

| Intersection             |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
|--------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|
| Int Delay, s/veh         | 5.4                                                                               |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Movement                 | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | WBR                                                                               | NBL                                                                               | NBT                                                                               | NBR                                                                               | SBL                                                                               | SBT                                                                               | SBR                                                                               |
| Lane Configurations      |  |  |  |  |  |  |  |  |  |  |  |  |
| Traffic Vol, veh/h       | 8                                                                                 | 99                                                                                | 159                                                                               | 140                                                                               | 98                                                                                | 4                                                                                 | 97                                                                                | 1                                                                                 | 88                                                                                | 8                                                                                 | 2                                                                                 | 9                                                                                 |
| Future Vol, veh/h        | 8                                                                                 | 99                                                                                | 159                                                                               | 140                                                                               | 98                                                                                | 4                                                                                 | 97                                                                                | 1                                                                                 | 88                                                                                | 8                                                                                 | 2                                                                                 | 9                                                                                 |
| Conflicting Peds, #/hr   | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 |
| Sign Control             | Free                                                                              | Free                                                                              | Free                                                                              | Free                                                                              | Free                                                                              | Free                                                                              | Stop                                                                              | Stop                                                                              | Stop                                                                              | Stop                                                                              | Stop                                                                              | Stop                                                                              |
| RT Channelized           | -                                                                                 | -                                                                                 | None                                                                              | -                                                                                 | -                                                                                 | None                                                                              | -                                                                                 | -                                                                                 | None                                                                              | -                                                                                 | -                                                                                 | None                                                                              |
| Storage Length           | 280                                                                               | -                                                                                 | 280                                                                               | 410                                                                               | -                                                                                 | -                                                                                 | 315                                                                               | -                                                                                 | 0                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 |
| Veh in Median Storage, # | -                                                                                 | 0                                                                                 | -                                                                                 | -                                                                                 | 0                                                                                 | -                                                                                 | -                                                                                 | 0                                                                                 | -                                                                                 | -                                                                                 | 0                                                                                 | -                                                                                 |
| Grade, %                 | -                                                                                 | 0                                                                                 | -                                                                                 | -                                                                                 | 0                                                                                 | -                                                                                 | -                                                                                 | 0                                                                                 | -                                                                                 | -                                                                                 | 0                                                                                 | -                                                                                 |
| Peak Hour Factor         | 92                                                                                | 92                                                                                | 92                                                                                | 92                                                                                | 92                                                                                | 92                                                                                | 92                                                                                | 92                                                                                | 92                                                                                | 92                                                                                | 92                                                                                | 92                                                                                |
| Heavy Vehicles, %        | 2                                                                                 | 2                                                                                 | 2                                                                                 | 2                                                                                 | 2                                                                                 | 2                                                                                 | 2                                                                                 | 2                                                                                 | 2                                                                                 | 2                                                                                 | 2                                                                                 | 2                                                                                 |
| Mvmt Flow                | 9                                                                                 | 108                                                                               | 173                                                                               | 152                                                                               | 107                                                                               | 4                                                                                 | 105                                                                               | 1                                                                                 | 96                                                                                | 9                                                                                 | 2                                                                                 | 10                                                                                |

| Major/Minor          | Major1 |   |   | Major2 |   |   | Minor1 |      |      | Minor2 |      |      |
|----------------------|--------|---|---|--------|---|---|--------|------|------|--------|------|------|
| Conflicting Flow All | 111    | 0 | 0 | 281    | 0 | 0 | 485    | 541  | 54   | 486    | 712  | 56   |
| Stage 1              | -      | - | - | -      | - | - | 126    | 126  | -    | 413    | 413  | -    |
| Stage 2              | -      | - | - | -      | - | - | 359    | 415  | -    | 73     | 299  | -    |
| Critical Hdwy        | 4.14   | - | - | 4.14   | - | - | 7.54   | 6.54 | 6.94 | 7.54   | 6.54 | 6.94 |
| Critical Hdwy Stg 1  | -      | - | - | -      | - | - | 6.54   | 5.54 | -    | 6.54   | 5.54 | -    |
| Critical Hdwy Stg 2  | -      | - | - | -      | - | - | 6.54   | 5.54 | -    | 6.54   | 5.54 | -    |
| Follow-up Hdwy       | 2.22   | - | - | 2.22   | - | - | 3.52   | 4.02 | 3.32 | 3.52   | 4.02 | 3.32 |
| Pot Cap-1 Maneuver   | 1477   | - | - | 1278   | - | - | 465    | 447  | 1002 | 464    | 356  | 999  |
| Stage 1              | -      | - | - | -      | - | - | 865    | 791  | -    | 587    | 592  | -    |
| Stage 2              | -      | - | - | -      | - | - | 632    | 591  | -    | 928    | 665  | -    |
| Platoon blocked, %   | -      | - | - | -      | - | - | -      | -    | -    | -      | -    | -    |
| Mov Cap-1 Maneuver   | 1477   | - | - | 1278   | - | - | 414    | 392  | 1002 | 379    | 312  | 999  |
| Mov Cap-2 Maneuver   | -      | - | - | -      | - | - | 414    | 392  | -    | 379    | 312  | -    |
| Stage 1              | -      | - | - | -      | - | - | 860    | 786  | -    | 583    | 522  | -    |
| Stage 2              | -      | - | - | -      | - | - | 549    | 521  | -    | 833    | 661  | -    |

| Approach             | EB  |   |   | WB  |   |   | NB |   |   | SB   |   |   |
|----------------------|-----|---|---|-----|---|---|----|---|---|------|---|---|
| HCM Control Delay, s | 0.2 | - | - | 4.7 | - | - | 13 | - | - | 12.2 | - | - |
| HCM LOS              | -   | - | - | -   | - | - | B  | - | - | B    | - | - |

| Minor Lane/Major Mvmt | NBLn1 | NBLn2 | NBLn3 | EBL   | EBT | EBR | WBL   | WBT | WBR | SBLn1 |
|-----------------------|-------|-------|-------|-------|-----|-----|-------|-----|-----|-------|
| Capacity (veh/h)      | 414   | 392   | 1002  | 1477  | -   | -   | 1278  | -   | -   | 520   |
| HCM Lane V/C Ratio    | 0.255 | 0.003 | 0.095 | 0.006 | -   | -   | 0.119 | -   | -   | 0.04  |
| HCM Control Delay (s) | 16.6  | 14.2  | 9     | 7.5   | -   | -   | 8.2   | -   | -   | 12.2  |
| HCM Lane LOS          | C     | B     | A     | A     | -   | -   | A     | -   | -   | B     |
| HCM 95th %tile Q(veh) | 1     | 0     | 0.3   | 0     | -   | -   | 0.4   | -   | -   | 0.1   |

HCM 6th TWSC  
2: Idylwood St & Crystal Valley Pkwy

Existing  
PM Peak

| Intersection             |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |      |                                                                                     |      |
|--------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|------|-------------------------------------------------------------------------------------|------|
| Int Delay, s/veh         | 2                                                                                 |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |      |                                                                                     |      |
| Movement                 | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | WBR                                                                               | NBL                                                                               | NBT                                                                               | NBR                                                                               | SBL  | SBT                                                                                 | SBR  |
| Lane Configurations      |  |  |  |  |  |  |  |  |  |      |  |      |
| Traffic Vol, veh/h       | 15                                                                                | 159                                                                               | 21                                                                                | 39                                                                                | 216                                                                               | 11                                                                                | 13                                                                                | 2                                                                                 | 19                                                                                | 4    | 2                                                                                   | 13   |
| Future Vol, veh/h        | 15                                                                                | 159                                                                               | 21                                                                                | 39                                                                                | 216                                                                               | 11                                                                                | 13                                                                                | 2                                                                                 | 19                                                                                | 4    | 2                                                                                   | 13   |
| Conflicting Peds, #/hr   | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0    | 0                                                                                   | 0    |
| Sign Control             | Free                                                                              | Free                                                                              | Free                                                                              | Free                                                                              | Free                                                                              | Free                                                                              | Stop                                                                              | Stop                                                                              | Stop                                                                              | Stop | Stop                                                                                | Stop |
| RT Channelized           | -                                                                                 | -                                                                                 | None                                                                              | -                                                                                 | -                                                                                 | None                                                                              | -                                                                                 | -                                                                                 | None                                                                              | -    | -                                                                                   | None |
| Storage Length           | 255                                                                               | -                                                                                 | 285                                                                               | 225                                                                               | -                                                                                 | 315                                                                               | -                                                                                 | -                                                                                 | -                                                                                 | -    | -                                                                                   | -    |
| Veh in Median Storage, # | -                                                                                 | 0                                                                                 | -                                                                                 | -                                                                                 | 0                                                                                 | -                                                                                 | -                                                                                 | 0                                                                                 | -                                                                                 | -    | 0                                                                                   | -    |
| Grade, %                 | -                                                                                 | 0                                                                                 | -                                                                                 | -                                                                                 | 0                                                                                 | -                                                                                 | -                                                                                 | 0                                                                                 | -                                                                                 | -    | 0                                                                                   | -    |
| Peak Hour Factor         | 83                                                                                | 83                                                                                | 83                                                                                | 83                                                                                | 83                                                                                | 83                                                                                | 83                                                                                | 83                                                                                | 83                                                                                | 83   | 83                                                                                  | 83   |
| Heavy Vehicles, %        | 2                                                                                 | 2                                                                                 | 2                                                                                 | 2                                                                                 | 2                                                                                 | 2                                                                                 | 2                                                                                 | 2                                                                                 | 2                                                                                 | 2    | 2                                                                                   | 2    |
| Mvmt Flow                | 18                                                                                | 192                                                                               | 25                                                                                | 47                                                                                | 260                                                                               | 13                                                                                | 16                                                                                | 2                                                                                 | 23                                                                                | 5    | 2                                                                                   | 16   |

| Major/Minor          | Major1 |   |   | Major2 |   |   | Minor1 |       |       | Minor2 |       |       |
|----------------------|--------|---|---|--------|---|---|--------|-------|-------|--------|-------|-------|
| Conflicting Flow All | 273    | 0 | 0 | 217    | 0 | 0 | 598    | 595   | 192   | 607    | 607   | 260   |
| Stage 1              | -      | - | - | -      | - | - | 228    | 228   | -     | 354    | 354   | -     |
| Stage 2              | -      | - | - | -      | - | - | 370    | 367   | -     | 253    | 253   | -     |
| Critical Hdwy        | 4.12   | - | - | 4.12   | - | - | 7.12   | 6.52  | 6.22  | 7.12   | 6.52  | 6.22  |
| Critical Hdwy Stg 1  | -      | - | - | -      | - | - | 6.12   | 5.52  | -     | 6.12   | 5.52  | -     |
| Critical Hdwy Stg 2  | -      | - | - | -      | - | - | 6.12   | 5.52  | -     | 6.12   | 5.52  | -     |
| Follow-up Hdwy       | 2.218  | - | - | 2.218  | - | - | 3.518  | 4.018 | 3.318 | 3.518  | 4.018 | 3.318 |
| Pot Cap-1 Maneuver   | 1290   | - | - | 1353   | - | - | 414    | 417   | 850   | 408    | 411   | 779   |
| Stage 1              | -      | - | - | -      | - | - | 775    | 715   | -     | 663    | 630   | -     |
| Stage 2              | -      | - | - | -      | - | - | 650    | 622   | -     | 751    | 698   | -     |
| Platoon blocked, %   | -      | - | - | -      | - | - | -      | -     | -     | -      | -     | -     |
| Mov Cap-1 Maneuver   | 1290   | - | - | 1353   | - | - | 389    | 397   | 850   | 381    | 391   | 779   |
| Mov Cap-2 Maneuver   | -      | - | - | -      | - | - | 389    | 397   | -     | 381    | 391   | -     |
| Stage 1              | -      | - | - | -      | - | - | 764    | 705   | -     | 654    | 608   | -     |
| Stage 2              | -      | - | - | -      | - | - | 612    | 600   | -     | 718    | 688   | -     |

| Approach             | EB  |  |  | WB  |  |  | NB   |  |  | SB   |  |  |
|----------------------|-----|--|--|-----|--|--|------|--|--|------|--|--|
| HCM Control Delay, s | 0.6 |  |  | 1.1 |  |  | 11.7 |  |  | 11.4 |  |  |
| HCM LOS              |     |  |  |     |  |  | B    |  |  | B    |  |  |

| Minor Lane/Major Mvmt | NBLn1 | NBLn2 | EBL   | EBT | EBR | WBL   | WBT | WBR | SBLn1 |
|-----------------------|-------|-------|-------|-----|-----|-------|-----|-----|-------|
| Capacity (veh/h)      | 389   | 767   | 1290  | -   | -   | 1353  | -   | -   | 588   |
| HCM Lane V/C Ratio    | 0.04  | 0.033 | 0.014 | -   | -   | 0.035 | -   | -   | 0.039 |
| HCM Control Delay (s) | 14.6  | 9.9   | 7.8   | -   | -   | 7.8   | -   | -   | 11.4  |
| HCM Lane LOS          | B     | A     | A     | -   | -   | A     | -   | -   | B     |
| HCM 95th %tile Q(veh) | 0.1   | 0.1   | 0     | -   | -   | 0.1   | -   | -   | 0.1   |

# HCM 6th AWSC

## 3: Lake Gulch Rd & Crystal Valley Pkwy

Existing  
PM Peak

| Intersection              |      |
|---------------------------|------|
| Intersection Delay, s/veh | 89.3 |
| Intersection LOS          | F    |

| Movement            | EBL                                                                               | EBR                                                                               | NBL                                                                               | NBT                                                                               | SBT                                                                               | SBR                                                                               |
|---------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|
| Lane Configurations |  |  |  |  |  |  |
| Traffic Vol, veh/h  | 400                                                                               | 20                                                                                | 19                                                                                | 48                                                                                | 83                                                                                | 663                                                                               |
| Future Vol, veh/h   | 400                                                                               | 20                                                                                | 19                                                                                | 48                                                                                | 83                                                                                | 663                                                                               |
| Peak Hour Factor    | 0.88                                                                              | 0.88                                                                              | 0.88                                                                              | 0.88                                                                              | 0.88                                                                              | 0.88                                                                              |
| Heavy Vehicles, %   | 2                                                                                 | 2                                                                                 | 2                                                                                 | 2                                                                                 | 2                                                                                 | 2                                                                                 |
| Mvmt Flow           | 455                                                                               | 23                                                                                | 22                                                                                | 55                                                                                | 94                                                                                | 753                                                                               |
| Number of Lanes     | 1                                                                                 | 1                                                                                 | 1                                                                                 | 1                                                                                 | 1                                                                                 | 1                                                                                 |

| Approach                   | EB   | NB   | SB    |
|----------------------------|------|------|-------|
| Opposing Approach          |      | SB   | NB    |
| Opposing Lanes             | 0    | 2    | 2     |
| Conflicting Approach Left  | SB   | EB   |       |
| Conflicting Lanes Left     | 2    | 2    | 0     |
| Conflicting Approach Right | NB   |      | EB    |
| Conflicting Lanes Right    | 2    | 0    | 2     |
| HCM Control Delay          | 47.3 | 11.5 | 119.9 |
| HCM LOS                    | E    | B    | F     |

| Lane                   | NBLn1 | NBLn2 | EBLn1 | EBLn2 | SBLn1 | SBLn2 |
|------------------------|-------|-------|-------|-------|-------|-------|
| Vol Left, %            | 100%  | 0%    | 100%  | 0%    | 0%    | 0%    |
| Vol Thru, %            | 0%    | 100%  | 0%    | 0%    | 100%  | 0%    |
| Vol Right, %           | 0%    | 0%    | 0%    | 100%  | 0%    | 100%  |
| Sign Control           | Stop  | Stop  | Stop  | Stop  | Stop  | Stop  |
| Traffic Vol by Lane    | 19    | 48    | 400   | 20    | 83    | 663   |
| LT Vol                 | 19    | 0     | 400   | 0     | 0     | 0     |
| Through Vol            | 0     | 48    | 0     | 0     | 83    | 0     |
| RT Vol                 | 0     | 0     | 0     | 20    | 0     | 663   |
| Lane Flow Rate         | 22    | 55    | 455   | 23    | 94    | 753   |
| Geometry Grp           | 5     | 5     | 5     | 5     | 5     | 5     |
| Degree of Util (X)     | 0.047 | 0.112 | 0.908 | 0.038 | 0.171 | 1.221 |
| Departure Headway (Hd) | 8.373 | 7.855 | 7.632 | 6.417 | 6.545 | 5.832 |
| Convergence, Y/N       | Yes   | Yes   | Yes   | Yes   | Yes   | Yes   |
| Cap                    | 430   | 459   | 477   | 561   | 552   | 625   |
| Service Time           | 6.073 | 5.555 | 5.332 | 4.117 | 4.245 | 3.532 |
| HCM Lane V/C Ratio     | 0.051 | 0.12  | 0.954 | 0.041 | 0.17  | 1.205 |
| HCM Control Delay      | 11.5  | 11.5  | 49.2  | 9.4   | 10.6  | 133.6 |
| HCM Lane LOS           | B     | B     | E     | A     | B     | F     |
| HCM 95th-tile Q        | 0.1   | 0.4   | 10.2  | 0.1   | 0.6   | 27.4  |

HCM 6th TWSC  
1: Loop Rd & Crystal Valley Pkwy

2028 Background  
AM Peak

| Intersection             |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |      |                                                                                   |                                                                                   |                                                                                   |      |                                                                                     |                                                                                     |
|--------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Int Delay, s/veh         | 6.5                                                                               |                                                                                   |                                                                                   |                                                                                   |                                                                                   |      |                                                                                   |                                                                                   |                                                                                   |      |                                                                                     |                                                                                     |
| Movement                 | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | WBR  | NBL                                                                               | NBT                                                                               | NBR                                                                               | SBL  | SBT                                                                                 | SBR                                                                                 |
| Lane Configurations      |  |  |  |  |  |      |  |  |  |      |  |  |
| Traffic Vol, veh/h       | 1                                                                                 | 260                                                                               | 95                                                                                | 40                                                                                | 475                                                                               | 1    | 215                                                                               | 1                                                                                 | 90                                                                                | 1    | 2                                                                                   | 1                                                                                   |
| Future Vol, veh/h        | 1                                                                                 | 260                                                                               | 95                                                                                | 40                                                                                | 475                                                                               | 1    | 215                                                                               | 1                                                                                 | 90                                                                                | 1    | 2                                                                                   | 1                                                                                   |
| Conflicting Peds, #/hr   | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0    | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0    | 0                                                                                   | 0                                                                                   |
| Sign Control             | Free                                                                              | Free                                                                              | Free                                                                              | Free                                                                              | Free                                                                              | Free | Stop                                                                              | Stop                                                                              | Stop                                                                              | Stop | Stop                                                                                | Stop                                                                                |
| RT Channelized           | -                                                                                 | -                                                                                 | None                                                                              | -                                                                                 | -                                                                                 | None | -                                                                                 | -                                                                                 | None                                                                              | -    | -                                                                                   | None                                                                                |
| Storage Length           | 280                                                                               | -                                                                                 | 280                                                                               | 410                                                                               | -                                                                                 | -    | 315                                                                               | -                                                                                 | 0                                                                                 | -    | -                                                                                   | -                                                                                   |
| Veh in Median Storage, # | -                                                                                 | 0                                                                                 | -                                                                                 | -                                                                                 | 0                                                                                 | -    | -                                                                                 | 0                                                                                 | -                                                                                 | -    | 0                                                                                   | -                                                                                   |
| Grade, %                 | -                                                                                 | 0                                                                                 | -                                                                                 | -                                                                                 | 0                                                                                 | -    | -                                                                                 | 0                                                                                 | -                                                                                 | -    | 0                                                                                   | -                                                                                   |
| Peak Hour Factor         | 95                                                                                | 95                                                                                | 95                                                                                | 95                                                                                | 95                                                                                | 95   | 95                                                                                | 95                                                                                | 95                                                                                | 95   | 95                                                                                  | 95                                                                                  |
| Heavy Vehicles, %        | 2                                                                                 | 2                                                                                 | 2                                                                                 | 2                                                                                 | 2                                                                                 | 2    | 2                                                                                 | 2                                                                                 | 2                                                                                 | 2    | 2                                                                                   | 2                                                                                   |
| Mvmt Flow                | 1                                                                                 | 274                                                                               | 100                                                                               | 42                                                                                | 500                                                                               | 1    | 226                                                                               | 1                                                                                 | 95                                                                                | 1    | 2                                                                                   | 1                                                                                   |

| Major/Minor          | Major1 |   |   | Major2 |   |   | Minor1 |      |      | Minor2 |      |      |
|----------------------|--------|---|---|--------|---|---|--------|------|------|--------|------|------|
| Conflicting Flow All | 501    | 0 | 0 | 374    | 0 | 0 | 611    | 861  | 137  | 725    | 961  | 251  |
| Stage 1              | -      | - | - | -      | - | - | 276    | 276  | -    | 585    | 585  | -    |
| Stage 2              | -      | - | - | -      | - | - | 335    | 585  | -    | 140    | 376  | -    |
| Critical Hdwy        | 4.14   | - | - | 4.14   | - | - | 7.54   | 6.54 | 6.94 | 7.54   | 6.54 | 6.94 |
| Critical Hdwy Stg 1  | -      | - | - | -      | - | - | 6.54   | 5.54 | -    | 6.54   | 5.54 | -    |
| Critical Hdwy Stg 2  | -      | - | - | -      | - | - | 6.54   | 5.54 | -    | 6.54   | 5.54 | -    |
| Follow-up Hdwy       | 2.22   | - | - | 2.22   | - | - | 3.52   | 4.02 | 3.32 | 3.52   | 4.02 | 3.32 |
| Pot Cap-1 Maneuver   | 1059   | - | - | 1181   | - | - | 378    | 292  | 886  | 313    | 255  | 749  |
| Stage 1              | -      | - | - | -      | - | - | 707    | 680  | -    | 464    | 496  | -    |
| Stage 2              | -      | - | - | -      | - | - | 653    | 496  | -    | 849    | 615  | -    |
| Platoon blocked, %   | -      | - | - | -      | - | - | -      | -    | -    | -      | -    | -    |
| Mov Cap-1 Maneuver   | 1059   | - | - | 1181   | - | - | 364    | 281  | 886  | 271    | 246  | 749  |
| Mov Cap-2 Maneuver   | -      | - | - | -      | - | - | 364    | 281  | -    | 271    | 246  | -    |
| Stage 1              | -      | - | - | -      | - | - | 706    | 679  | -    | 464    | 478  | -    |
| Stage 2              | -      | - | - | -      | - | - | 626    | 478  | -    | 756    | 614  | -    |

| Approach             | EB |  |  | WB  |  |  | NB   |  |  | SB |  |  |
|----------------------|----|--|--|-----|--|--|------|--|--|----|--|--|
| HCM Control Delay, s | 0  |  |  | 0.6 |  |  | 23.8 |  |  | 17 |  |  |
| HCM LOS              |    |  |  |     |  |  | C    |  |  | C  |  |  |

| Minor Lane/Major Mvmt | NBLn1 | NBLn2 | NBLn3 | EBL   | EBT | EBR | WBL   | WBT | WBR | SBLn1 |
|-----------------------|-------|-------|-------|-------|-----|-----|-------|-----|-----|-------|
| Capacity (veh/h)      | 364   | 281   | 886   | 1059  | -   | -   | 1181  | -   | -   | 304   |
| HCM Lane V/C Ratio    | 0.622 | 0.004 | 0.107 | 0.001 | -   | -   | 0.036 | -   | -   | 0.014 |
| HCM Control Delay (s) | 29.8  | 17.9  | 9.5   | 8.4   | -   | -   | 8.2   | -   | -   | 17    |
| HCM Lane LOS          | D     | C     | A     | A     | -   | -   | A     | -   | -   | C     |
| HCM 95th %tile Q(veh) | 4     | 0     | 0.4   | 0     | -   | -   | 0.1   | -   | -   | 0     |

HCM 6th TWSC  
2: Idylwood St & Crystal Valley Pkwy

2028 Background  
AM Peak

| Intersection             |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |      |      |                                                                                     |
|--------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|------|------|-------------------------------------------------------------------------------------|
| Int Delay, s/veh         | 2.2                                                                               |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |      |      |                                                                                     |
| Movement                 | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | WBR                                                                               | NBL                                                                               | NBT                                                                               | NBR                                                                               | SBL  | SBT  | SBR                                                                                 |
| Lane Configurations      |  |  |  |  |  |  |  |  |  |      |      |  |
| Traffic Vol, veh/h       | 6                                                                                 | 330                                                                               | 16                                                                                | 7                                                                                 | 450                                                                               | 3                                                                                 | 45                                                                                | 1                                                                                 | 20                                                                                | 0    | 0    | 22                                                                                  |
| Future Vol, veh/h        | 6                                                                                 | 330                                                                               | 16                                                                                | 7                                                                                 | 450                                                                               | 3                                                                                 | 45                                                                                | 1                                                                                 | 20                                                                                | 0    | 0    | 22                                                                                  |
| Conflicting Peds, #/hr   | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0    | 0    | 0                                                                                   |
| Sign Control             | Free                                                                              | Free                                                                              | Free                                                                              | Free                                                                              | Free                                                                              | Free                                                                              | Stop                                                                              | Stop                                                                              | Stop                                                                              | Stop | Stop | Stop                                                                                |
| RT Channelized           | -                                                                                 | -                                                                                 | None                                                                              | -                                                                                 | -                                                                                 | None                                                                              | -                                                                                 | -                                                                                 | None                                                                              | -    | -    | None                                                                                |
| Storage Length           | 255                                                                               | -                                                                                 | 285                                                                               | 225                                                                               | -                                                                                 | 315                                                                               | -                                                                                 | -                                                                                 | -                                                                                 | -    | -    | 0                                                                                   |
| Veh in Median Storage, # | -                                                                                 | 0                                                                                 | -                                                                                 | -                                                                                 | 0                                                                                 | -                                                                                 | -                                                                                 | 0                                                                                 | -                                                                                 | -    | 0    | -                                                                                   |
| Grade, %                 | -                                                                                 | 0                                                                                 | -                                                                                 | -                                                                                 | 0                                                                                 | -                                                                                 | -                                                                                 | 0                                                                                 | -                                                                                 | -    | 0    | -                                                                                   |
| Peak Hour Factor         | 80                                                                                | 80                                                                                | 80                                                                                | 80                                                                                | 80                                                                                | 80                                                                                | 80                                                                                | 80                                                                                | 80                                                                                | 80   | 80   | 80                                                                                  |
| Heavy Vehicles, %        | 2                                                                                 | 2                                                                                 | 2                                                                                 | 2                                                                                 | 2                                                                                 | 2                                                                                 | 2                                                                                 | 2                                                                                 | 2                                                                                 | 2    | 2    | 2                                                                                   |
| Mvmt Flow                | 8                                                                                 | 413                                                                               | 20                                                                                | 9                                                                                 | 563                                                                               | 4                                                                                 | 56                                                                                | 1                                                                                 | 25                                                                                | 0    | 0    | 28                                                                                  |

| Major/Minor          | Major1 |   |   | Major2 |   |   | Minor1 |       |       | Minor2 |   |       |
|----------------------|--------|---|---|--------|---|---|--------|-------|-------|--------|---|-------|
| Conflicting Flow All | 567    | 0 | 0 | 433    | 0 | 0 | 1026   | 1014  | 413   | -      | - | 563   |
| Stage 1              | -      | - | - | -      | - | - | 429    | 429   | -     | -      | - | -     |
| Stage 2              | -      | - | - | -      | - | - | 597    | 585   | -     | -      | - | -     |
| Critical Hdwy        | 4.12   | - | - | 4.12   | - | - | 7.12   | 6.52  | 6.22  | -      | - | 6.22  |
| Critical Hdwy Stg 1  | -      | - | - | -      | - | - | 6.12   | 5.52  | -     | -      | - | -     |
| Critical Hdwy Stg 2  | -      | - | - | -      | - | - | 6.12   | 5.52  | -     | -      | - | -     |
| Follow-up Hdwy       | 2.218  | - | - | 2.218  | - | - | 3.518  | 4.018 | 3.318 | -      | - | 3.318 |
| Pot Cap-1 Maneuver   | 1005   | - | - | 1127   | - | - | 213    | 239   | 639   | 0      | 0 | 526   |
| Stage 1              | -      | - | - | -      | - | - | 604    | 584   | -     | 0      | 0 | -     |
| Stage 2              | -      | - | - | -      | - | - | 490    | 498   | -     | 0      | 0 | -     |
| Platoon blocked, %   | -      | - | - | -      | - | - | -      | -     | -     | -      | - | -     |
| Mov Cap-1 Maneuver   | 1005   | - | - | 1127   | - | - | 199    | 235   | 639   | -      | - | 526   |
| Mov Cap-2 Maneuver   | -      | - | - | -      | - | - | 199    | 235   | -     | -      | - | -     |
| Stage 1              | -      | - | - | -      | - | - | 599    | 579   | -     | -      | - | -     |
| Stage 2              | -      | - | - | -      | - | - | 461    | 494   | -     | -      | - | -     |

| Approach             | EB  |  |  | WB  |  |  | NB   |  |  | SB   |  |  |
|----------------------|-----|--|--|-----|--|--|------|--|--|------|--|--|
| HCM Control Delay, s | 0.1 |  |  | 0.1 |  |  | 24.2 |  |  | 12.2 |  |  |
| HCM LOS              |     |  |  |     |  |  | C    |  |  | B    |  |  |

| Minor Lane/Major Mvmt | NBLn1 | NBLn2 | EBL   | EBT | EBR | WBL   | WBT | WBR | SBLn1 |
|-----------------------|-------|-------|-------|-----|-----|-------|-----|-----|-------|
| Capacity (veh/h)      | 199   | 591   | 1005  | -   | -   | 1127  | -   | -   | 526   |
| HCM Lane V/C Ratio    | 0.283 | 0.044 | 0.007 | -   | -   | 0.008 | -   | -   | 0.052 |
| HCM Control Delay (s) | 30.1  | 11.4  | 8.6   | -   | -   | 8.2   | -   | -   | 12.2  |
| HCM Lane LOS          | D     | B     | A     | -   | -   | A     | -   | -   | B     |
| HCM 95th %tile Q(veh) | 1.1   | 0.1   | 0     | -   | -   | 0     | -   | -   | 0.2   |

# HCM 6th AWSC

## 3: Lake Gulch Rd & Crystal Valley Pkwy

2028 Background  
AM Peak

| Intersection              |      |
|---------------------------|------|
| Intersection Delay, s/veh | 11.5 |
| Intersection LOS          | B    |

| Movement            | EBL                                                                               | EBR                                                                               | NBL                                                                               | NBT                                                                               | SBT                                                                               | SBR                                                                               |
|---------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|
| Lane Configurations |  |  |  |  |  |  |
| Traffic Vol, veh/h  | 290                                                                               | 20                                                                                | 25                                                                                | 65                                                                                | 30                                                                                | 150                                                                               |
| Future Vol, veh/h   | 290                                                                               | 20                                                                                | 25                                                                                | 65                                                                                | 30                                                                                | 150                                                                               |
| Peak Hour Factor    | 0.93                                                                              | 0.93                                                                              | 0.93                                                                              | 0.93                                                                              | 0.93                                                                              | 0.93                                                                              |
| Heavy Vehicles, %   | 2                                                                                 | 2                                                                                 | 2                                                                                 | 2                                                                                 | 2                                                                                 | 2                                                                                 |
| Mvmt Flow           | 312                                                                               | 22                                                                                | 27                                                                                | 70                                                                                | 32                                                                                | 161                                                                               |
| Number of Lanes     | 1                                                                                 | 1                                                                                 | 1                                                                                 | 1                                                                                 | 1                                                                                 | 1                                                                                 |

| Approach                   | EB   | NB  | SB |
|----------------------------|------|-----|----|
| Opposing Approach          |      | SB  | NB |
| Opposing Lanes             | 0    | 2   | 2  |
| Conflicting Approach Left  | SB   | EB  |    |
| Conflicting Lanes Left     | 2    | 2   | 0  |
| Conflicting Approach Right | NB   |     | EB |
| Conflicting Lanes Right    | 2    | 0   | 2  |
| HCM Control Delay          | 13.7 | 9.2 | 9  |
| HCM LOS                    | B    | A   | A  |

| Lane                   | NBLn1 | NBLn2 | EBLn1 | EBLn2 | SBLn1 | SBLn2 |
|------------------------|-------|-------|-------|-------|-------|-------|
| Vol Left, %            | 100%  | 0%    | 100%  | 0%    | 0%    | 0%    |
| Vol Thru, %            | 0%    | 100%  | 0%    | 0%    | 100%  | 0%    |
| Vol Right, %           | 0%    | 0%    | 0%    | 100%  | 0%    | 100%  |
| Sign Control           | Stop  | Stop  | Stop  | Stop  | Stop  | Stop  |
| Traffic Vol by Lane    | 25    | 65    | 290   | 20    | 30    | 150   |
| LT Vol                 | 25    | 0     | 290   | 0     | 0     | 0     |
| Through Vol            | 0     | 65    | 0     | 0     | 30    | 0     |
| RT Vol                 | 0     | 0     | 0     | 20    | 0     | 150   |
| Lane Flow Rate         | 27    | 70    | 312   | 22    | 32    | 161   |
| Geometry Grp           | 5     | 5     | 5     | 5     | 5     | 5     |
| Degree of Util (X)     | 0.047 | 0.111 | 0.498 | 0.027 | 0.051 | 0.221 |
| Departure Headway (Hd) | 6.235 | 5.729 | 5.745 | 4.541 | 5.64  | 4.932 |
| Convergence, Y/N       | Yes   | Yes   | Yes   | Yes   | Yes   | Yes   |
| Cap                    | 572   | 622   | 624   | 782   | 633   | 724   |
| Service Time           | 4.004 | 3.498 | 3.512 | 2.308 | 3.396 | 2.688 |
| HCM Lane V/C Ratio     | 0.047 | 0.113 | 0.5   | 0.028 | 0.051 | 0.222 |
| HCM Control Delay      | 9.3   | 9.2   | 14.1  | 7.4   | 8.7   | 9.1   |
| HCM Lane LOS           | A     | A     | B     | A     | A     | A     |
| HCM 95th-tile Q        | 0.1   | 0.4   | 2.8   | 0.1   | 0.2   | 0.8   |

HCM 6th TWSC  
1: Loop Rd & Crystal Valley Pkwy

2028 Background  
PM Peak

| Intersection             |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
|--------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|
| Int Delay, s/veh         | 6.8                                                                               |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Movement                 | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | WBR                                                                               | NBL                                                                               | NBT                                                                               | NBR                                                                               | SBL                                                                               | SBT                                                                               | SBR                                                                               |
| Lane Configurations      |  |  |  |  |  |  |  |  |  |  |  |  |
| Traffic Vol, veh/h       | 8                                                                                 | 415                                                                               | 215                                                                               | 95                                                                                | 315                                                                               | 4                                                                                 | 140                                                                               | 1                                                                                 | 60                                                                                | 5                                                                                 | 1                                                                                 | 12                                                                                |
| Future Vol, veh/h        | 8                                                                                 | 415                                                                               | 215                                                                               | 95                                                                                | 315                                                                               | 4                                                                                 | 140                                                                               | 1                                                                                 | 60                                                                                | 5                                                                                 | 1                                                                                 | 12                                                                                |
| Conflicting Peds, #/hr   | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 |
| Sign Control             | Free                                                                              | Free                                                                              | Free                                                                              | Free                                                                              | Free                                                                              | Free                                                                              | Stop                                                                              | Stop                                                                              | Stop                                                                              | Stop                                                                              | Stop                                                                              | Stop                                                                              |
| RT Channelized           | -                                                                                 | -                                                                                 | None                                                                              | -                                                                                 | -                                                                                 | None                                                                              | -                                                                                 | -                                                                                 | None                                                                              | -                                                                                 | -                                                                                 | None                                                                              |
| Storage Length           | 280                                                                               | -                                                                                 | 280                                                                               | 410                                                                               | -                                                                                 | -                                                                                 | 315                                                                               | -                                                                                 | 0                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 |
| Veh in Median Storage, # | -                                                                                 | 0                                                                                 | -                                                                                 | -                                                                                 | 0                                                                                 | -                                                                                 | -                                                                                 | 0                                                                                 | -                                                                                 | -                                                                                 | 0                                                                                 | -                                                                                 |
| Grade, %                 | -                                                                                 | 0                                                                                 | -                                                                                 | -                                                                                 | 0                                                                                 | -                                                                                 | -                                                                                 | 0                                                                                 | -                                                                                 | -                                                                                 | 0                                                                                 | -                                                                                 |
| Peak Hour Factor         | 92                                                                                | 92                                                                                | 92                                                                                | 92                                                                                | 92                                                                                | 92                                                                                | 92                                                                                | 92                                                                                | 92                                                                                | 92                                                                                | 92                                                                                | 92                                                                                |
| Heavy Vehicles, %        | 2                                                                                 | 2                                                                                 | 2                                                                                 | 2                                                                                 | 2                                                                                 | 2                                                                                 | 2                                                                                 | 2                                                                                 | 2                                                                                 | 2                                                                                 | 2                                                                                 | 2                                                                                 |
| Mvmt Flow                | 9                                                                                 | 451                                                                               | 234                                                                               | 103                                                                               | 342                                                                               | 4                                                                                 | 152                                                                               | 1                                                                                 | 65                                                                                | 5                                                                                 | 1                                                                                 | 13                                                                                |
| Major/Minor              | Major1                                                                            |                                                                                   |                                                                                   | Major2                                                                            |                                                                                   |                                                                                   | Minor1                                                                            |                                                                                   |                                                                                   | Minor2                                                                            |                                                                                   |                                                                                   |
| Conflicting Flow All     | 346                                                                               | 0                                                                                 | 0                                                                                 | 685                                                                               | 0                                                                                 | 0                                                                                 | 847                                                                               | 1021                                                                              | 226                                                                               | 794                                                                               | 1253                                                                              | 173                                                                               |
| Stage 1                  | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | 469                                                                               | 469                                                                               | -                                                                                 | 550                                                                               | 550                                                                               | -                                                                                 |
| Stage 2                  | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | 378                                                                               | 552                                                                               | -                                                                                 | 244                                                                               | 703                                                                               | -                                                                                 |
| Critical Hdwy            | 4.14                                                                              | -                                                                                 | -                                                                                 | 4.14                                                                              | -                                                                                 | -                                                                                 | 7.54                                                                              | 6.54                                                                              | 6.94                                                                              | 7.54                                                                              | 6.54                                                                              | 6.94                                                                              |
| Critical Hdwy Stg 1      | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | 6.54                                                                              | 5.54                                                                              | -                                                                                 | 6.54                                                                              | 5.54                                                                              | -                                                                                 |
| Critical Hdwy Stg 2      | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | 6.54                                                                              | 5.54                                                                              | -                                                                                 | 6.54                                                                              | 5.54                                                                              | -                                                                                 |
| Follow-up Hdwy           | 2.22                                                                              | -                                                                                 | -                                                                                 | 2.22                                                                              | -                                                                                 | -                                                                                 | 3.52                                                                              | 4.02                                                                              | 3.32                                                                              | 3.52                                                                              | 4.02                                                                              | 3.32                                                                              |
| Pot Cap-1 Maneuver       | 1210                                                                              | -                                                                                 | -                                                                                 | 904                                                                               | -                                                                                 | -                                                                                 | 255                                                                               | 235                                                                               | 777                                                                               | 279                                                                               | 171                                                                               | 840                                                                               |
| Stage 1                  | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | 544                                                                               | 559                                                                               | -                                                                                 | 487                                                                               | 514                                                                               | -                                                                                 |
| Stage 2                  | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | 616                                                                               | 513                                                                               | -                                                                                 | 738                                                                               | 438                                                                               | -                                                                                 |
| Platoon blocked, %       | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 |
| Mov Cap-1 Maneuver       | 1210                                                                              | -                                                                                 | -                                                                                 | 904                                                                               | -                                                                                 | -                                                                                 | 227                                                                               | 207                                                                               | 777                                                                               | 231                                                                               | 150                                                                               | 840                                                                               |
| Mov Cap-2 Maneuver       | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | 227                                                                               | 207                                                                               | -                                                                                 | 231                                                                               | 150                                                                               | -                                                                                 |
| Stage 1                  | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | 540                                                                               | 555                                                                               | -                                                                                 | 484                                                                               | 455                                                                               | -                                                                                 |
| Stage 2                  | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | 536                                                                               | 455                                                                               | -                                                                                 | 670                                                                               | 435                                                                               | -                                                                                 |
| Approach                 | EB                                                                                |                                                                                   |                                                                                   | WB                                                                                |                                                                                   |                                                                                   | NB                                                                                |                                                                                   |                                                                                   | SB                                                                                |                                                                                   |                                                                                   |
| HCM Control Delay, s     | 0.1                                                                               |                                                                                   |                                                                                   | 2.2                                                                               |                                                                                   |                                                                                   | 36.6                                                                              |                                                                                   |                                                                                   | 13.9                                                                              |                                                                                   |                                                                                   |
| HCM LOS                  |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   | E                                                                                 |                                                                                   |                                                                                   | B                                                                                 |                                                                                   |                                                                                   |
| Minor Lane/Major Mvmt    | NBLn1                                                                             | NBLn2                                                                             | NBLn3                                                                             | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | WBR                                                                               | SBLn1                                                                             |                                                                                   |                                                                                   |
| Capacity (veh/h)         | 227                                                                               | 207                                                                               | 777                                                                               | 1210                                                                              | -                                                                                 | -                                                                                 | 904                                                                               | -                                                                                 | -                                                                                 | 423                                                                               |                                                                                   |                                                                                   |
| HCM Lane V/C Ratio       | 0.67                                                                              | 0.005                                                                             | 0.084                                                                             | 0.007                                                                             | -                                                                                 | -                                                                                 | 0.114                                                                             | -                                                                                 | -                                                                                 | 0.046                                                                             |                                                                                   |                                                                                   |
| HCM Control Delay (s)    | 48.1                                                                              | 22.5                                                                              | 10.1                                                                              | 8                                                                                 | -                                                                                 | -                                                                                 | 9.5                                                                               | -                                                                                 | -                                                                                 | 13.9                                                                              |                                                                                   |                                                                                   |
| HCM Lane LOS             | E                                                                                 | C                                                                                 | B                                                                                 | A                                                                                 | -                                                                                 | -                                                                                 | A                                                                                 | -                                                                                 | -                                                                                 | B                                                                                 |                                                                                   |                                                                                   |
| HCM 95th %tile Q(veh)    | 4.2                                                                               | 0                                                                                 | 0.3                                                                               | 0                                                                                 | -                                                                                 | -                                                                                 | 0.4                                                                               | -                                                                                 | -                                                                                 | 0.1                                                                               |                                                                                   |                                                                                   |

HCM 6th TWSC  
2: Idylwood St & Crystal Valley Pkwy

2028 Background  
PM Peak

| Intersection             |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |        |      |                                                                                     |
|--------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|--------|------|-------------------------------------------------------------------------------------|
| Int Delay, s/veh         | 1.3                                                                               |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |        |      |                                                                                     |
| Movement                 | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | WBR                                                                               | NBL                                                                               | NBT                                                                               | NBR                                                                               | SBL    | SBT  | SBR                                                                                 |
| Lane Configurations      |  |  |  |  |  |  |  |  |  |        |      |  |
| Traffic Vol, veh/h       | 18                                                                                | 420                                                                               | 42                                                                                | 18                                                                                | 375                                                                               | 8                                                                                 | 23                                                                                | 2                                                                                 | 10                                                                                | 0      | 0    | 13                                                                                  |
| Future Vol, veh/h        | 18                                                                                | 420                                                                               | 42                                                                                | 18                                                                                | 375                                                                               | 8                                                                                 | 23                                                                                | 2                                                                                 | 10                                                                                | 0      | 0    | 13                                                                                  |
| Conflicting Peds, #/hr   | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0      | 0    | 0                                                                                   |
| Sign Control             | Free                                                                              | Free                                                                              | Free                                                                              | Free                                                                              | Free                                                                              | Free                                                                              | Stop                                                                              | Stop                                                                              | Stop                                                                              | Stop   | Stop | Stop                                                                                |
| RT Channelized           | -                                                                                 | -                                                                                 | None                                                                              | -                                                                                 | -                                                                                 | None                                                                              | -                                                                                 | -                                                                                 | None                                                                              | -      | -    | None                                                                                |
| Storage Length           | 255                                                                               | -                                                                                 | 285                                                                               | 225                                                                               | -                                                                                 | 315                                                                               | -                                                                                 | -                                                                                 | -                                                                                 | -      | -    | 0                                                                                   |
| Veh in Median Storage, # | -                                                                                 | 0                                                                                 | -                                                                                 | -                                                                                 | 0                                                                                 | -                                                                                 | -                                                                                 | 0                                                                                 | -                                                                                 | -      | 0    | -                                                                                   |
| Grade, %                 | -                                                                                 | 0                                                                                 | -                                                                                 | -                                                                                 | 0                                                                                 | -                                                                                 | -                                                                                 | 0                                                                                 | -                                                                                 | -      | 0    | -                                                                                   |
| Peak Hour Factor         | 83                                                                                | 83                                                                                | 83                                                                                | 83                                                                                | 83                                                                                | 83                                                                                | 83                                                                                | 83                                                                                | 83                                                                                | 83     | 83   | 83                                                                                  |
| Heavy Vehicles, %        | 2                                                                                 | 2                                                                                 | 2                                                                                 | 2                                                                                 | 2                                                                                 | 2                                                                                 | 2                                                                                 | 2                                                                                 | 2                                                                                 | 2      | 2    | 2                                                                                   |
| Mvmt Flow                | 22                                                                                | 506                                                                               | 51                                                                                | 22                                                                                | 452                                                                               | 10                                                                                | 28                                                                                | 2                                                                                 | 12                                                                                | 0      | 0    | 16                                                                                  |
|                          |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |        |      |                                                                                     |
| Major/Minor              | Major1                                                                            |                                                                                   |                                                                                   | Major2                                                                            |                                                                                   |                                                                                   | Minor1                                                                            |                                                                                   |                                                                                   | Minor2 |      |                                                                                     |
| Conflicting Flow All     | 462                                                                               | 0                                                                                 | 0                                                                                 | 557                                                                               | 0                                                                                 | 0                                                                                 | 1059                                                                              | 1056                                                                              | 506                                                                               | -      | -    | 452                                                                                 |
| Stage 1                  | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | 550                                                                               | 550                                                                               | -                                                                                 | -      | -    | -                                                                                   |
| Stage 2                  | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | 509                                                                               | 506                                                                               | -                                                                                 | -      | -    | -                                                                                   |
| Critical Hdwy            | 4.12                                                                              | -                                                                                 | -                                                                                 | 4.12                                                                              | -                                                                                 | -                                                                                 | 7.12                                                                              | 6.52                                                                              | 6.22                                                                              | -      | -    | 6.22                                                                                |
| Critical Hdwy Stg 1      | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | 6.12                                                                              | 5.52                                                                              | -                                                                                 | -      | -    | -                                                                                   |
| Critical Hdwy Stg 2      | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | 6.12                                                                              | 5.52                                                                              | -                                                                                 | -      | -    | -                                                                                   |
| Follow-up Hdwy           | 2.218                                                                             | -                                                                                 | -                                                                                 | 2.218                                                                             | -                                                                                 | -                                                                                 | 3.518                                                                             | 4.018                                                                             | 3.318                                                                             | -      | -    | 3.318                                                                               |
| Pot Cap-1 Maneuver       | 1099                                                                              | -                                                                                 | -                                                                                 | 1014                                                                              | -                                                                                 | -                                                                                 | 202                                                                               | 225                                                                               | 566                                                                               | 0      | 0    | 608                                                                                 |
| Stage 1                  | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | 519                                                                               | 516                                                                               | -                                                                                 | 0      | 0    | -                                                                                   |
| Stage 2                  | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | 547                                                                               | 540                                                                               | -                                                                                 | 0      | 0    | -                                                                                   |
| Platoon blocked, %       |                                                                                   | -                                                                                 | -                                                                                 |                                                                                   | -                                                                                 | -                                                                                 |                                                                                   |                                                                                   |                                                                                   |        |      |                                                                                     |
| Mov Cap-1 Maneuver       | 1099                                                                              | -                                                                                 | -                                                                                 | 1014                                                                              | -                                                                                 | -                                                                                 | 191                                                                               | 216                                                                               | 566                                                                               | -      | -    | 608                                                                                 |
| Mov Cap-2 Maneuver       | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | 191                                                                               | 216                                                                               | -                                                                                 | -      | -    | -                                                                                   |
| Stage 1                  | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | 509                                                                               | 506                                                                               | -                                                                                 | -      | -    | -                                                                                   |
| Stage 2                  | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | 521                                                                               | 528                                                                               | -                                                                                 | -      | -    | -                                                                                   |
|                          |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |        |      |                                                                                     |
| Approach                 | EB                                                                                |                                                                                   |                                                                                   | WB                                                                                |                                                                                   |                                                                                   | NB                                                                                |                                                                                   |                                                                                   | SB     |      |                                                                                     |
| HCM Control Delay, s     | 0.3                                                                               |                                                                                   |                                                                                   | 0.4                                                                               |                                                                                   |                                                                                   | 22.3                                                                              |                                                                                   |                                                                                   | 11.1   |      |                                                                                     |
| HCM LOS                  |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   | C                                                                                 |                                                                                   |                                                                                   | B      |      |                                                                                     |
|                          |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |        |      |                                                                                     |
| Minor Lane/Major Mvmt    | NBLn1                                                                             | NBLn2                                                                             | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | WBR                                                                               | SBLn1                                                                             |        |      |                                                                                     |
| Capacity (veh/h)         | 191                                                                               | 446                                                                               | 1099                                                                              | -                                                                                 | -                                                                                 | 1014                                                                              | -                                                                                 | -                                                                                 | 608                                                                               |        |      |                                                                                     |
| HCM Lane V/C Ratio       | 0.145                                                                             | 0.032                                                                             | 0.02                                                                              | -                                                                                 | -                                                                                 | 0.021                                                                             | -                                                                                 | -                                                                                 | 0.026                                                                             |        |      |                                                                                     |
| HCM Control Delay (s)    | 27                                                                                | 13.3                                                                              | 8.3                                                                               | -                                                                                 | -                                                                                 | 8.6                                                                               | -                                                                                 | -                                                                                 | 11.1                                                                              |        |      |                                                                                     |
| HCM Lane LOS             | D                                                                                 | B                                                                                 | A                                                                                 | -                                                                                 | -                                                                                 | A                                                                                 | -                                                                                 | -                                                                                 | B                                                                                 |        |      |                                                                                     |
| HCM 95th %tile Q(veh)    | 0.5                                                                               | 0.1                                                                               | 0.1                                                                               | -                                                                                 | -                                                                                 | 0.1                                                                               | -                                                                                 | -                                                                                 | 0.1                                                                               |        |      |                                                                                     |

# HCM 6th AWSC

## 3: Lake Gulch Rd & Crystal Valley Pkwy

2028 Background  
PM Peak

| Intersection              |    |
|---------------------------|----|
| Intersection Delay, s/veh | 11 |
| Intersection LOS          | B  |

| Movement            | EBL                                                                               | EBR                                                                               | NBL                                                                               | NBT                                                                               | SBT                                                                               | SBR                                                                               |
|---------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|
| Lane Configurations |  |  |  |  |  |  |
| Traffic Vol, veh/h  | 190                                                                               | 45                                                                                | 40                                                                                | 30                                                                                | 60                                                                                | 300                                                                               |
| Future Vol, veh/h   | 190                                                                               | 45                                                                                | 40                                                                                | 30                                                                                | 60                                                                                | 300                                                                               |
| Peak Hour Factor    | 0.88                                                                              | 0.88                                                                              | 0.88                                                                              | 0.88                                                                              | 0.88                                                                              | 0.88                                                                              |
| Heavy Vehicles, %   | 2                                                                                 | 2                                                                                 | 2                                                                                 | 2                                                                                 | 2                                                                                 | 2                                                                                 |
| Mvmt Flow           | 216                                                                               | 51                                                                                | 45                                                                                | 34                                                                                | 68                                                                                | 341                                                                               |
| Number of Lanes     | 1                                                                                 | 1                                                                                 | 1                                                                                 | 1                                                                                 | 1                                                                                 | 1                                                                                 |

| Approach                   | EB   | NB  | SB   |
|----------------------------|------|-----|------|
| Opposing Approach          |      | SB  | NB   |
| Opposing Lanes             | 0    | 2   | 2    |
| Conflicting Approach Left  | SB   | EB  |      |
| Conflicting Lanes Left     | 2    | 2   | 0    |
| Conflicting Approach Right | NB   |     | EB   |
| Conflicting Lanes Right    | 2    | 0   | 2    |
| HCM Control Delay          | 11.7 | 9.3 | 10.9 |
| HCM LOS                    | B    | A   | B    |

| Lane                   | NBLn1 | NBLn2 | EBLn1 | EBLn2 | SBLn1 | SBLn2 |
|------------------------|-------|-------|-------|-------|-------|-------|
| Vol Left, %            | 100%  | 0%    | 100%  | 0%    | 0%    | 0%    |
| Vol Thru, %            | 0%    | 100%  | 0%    | 0%    | 100%  | 0%    |
| Vol Right, %           | 0%    | 0%    | 0%    | 100%  | 0%    | 100%  |
| Sign Control           | Stop  | Stop  | Stop  | Stop  | Stop  | Stop  |
| Traffic Vol by Lane    | 40    | 30    | 190   | 45    | 60    | 300   |
| LT Vol                 | 40    | 0     | 190   | 0     | 0     | 0     |
| Through Vol            | 0     | 30    | 0     | 0     | 60    | 0     |
| RT Vol                 | 0     | 0     | 0     | 45    | 0     | 300   |
| Lane Flow Rate         | 45    | 34    | 216   | 51    | 68    | 341   |
| Geometry Grp           | 5     | 5     | 5     | 5     | 5     | 5     |
| Degree of Util (X)     | 0.079 | 0.054 | 0.369 | 0.07  | 0.103 | 0.447 |
| Departure Headway (Hd) | 6.243 | 5.737 | 6.152 | 4.946 | 5.425 | 4.719 |
| Convergence, Y/N       | Yes   | Yes   | Yes   | Yes   | Yes   | Yes   |
| Cap                    | 570   | 619   | 581   | 716   | 658   | 760   |
| Service Time           | 4.03  | 3.523 | 3.94  | 2.733 | 3.179 | 2.473 |
| HCM Lane V/C Ratio     | 0.079 | 0.055 | 0.372 | 0.071 | 0.103 | 0.449 |
| HCM Control Delay      | 9.6   | 8.9   | 12.5  | 8.1   | 8.8   | 11.3  |
| HCM Lane LOS           | A     | A     | B     | A     | A     | B     |
| HCM 95th-tile Q        | 0.3   | 0.2   | 1.7   | 0.2   | 0.3   | 2.3   |

# HCM 6th Signalized Intersection Summary

## 1: Loop Rd & Crystal Valley Pkwy

2028 Background

AM Peak - Signal at #1

|                                                                    |  |  |  |  |  |  |  |  |  |  |  |  |
|--------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Movement                                                           | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | WBR                                                                               | NBL                                                                                 | NBT                                                                                 | NBR                                                                                 | SBL                                                                                 | SBT                                                                                 | SBR                                                                                 |
| Lane Configurations                                                |  |  |  |  |  |                                                                                   |  |  |  |                                                                                     |  |                                                                                     |
| Traffic Volume (veh/h)                                             | 1                                                                                 | 260                                                                               | 95                                                                                | 40                                                                                | 475                                                                               | 1                                                                                 | 215                                                                                 | 1                                                                                   | 90                                                                                  | 1                                                                                   | 2                                                                                   | 1                                                                                   |
| Future Volume (veh/h)                                              | 1                                                                                 | 260                                                                               | 95                                                                                | 40                                                                                | 475                                                                               | 1                                                                                 | 215                                                                                 | 1                                                                                   | 90                                                                                  | 1                                                                                   | 2                                                                                   | 1                                                                                   |
| Initial Q (Qb), veh                                                | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                   | 0                                                                                   | 0                                                                                   | 0                                                                                   | 0                                                                                   | 0                                                                                   |
| Ped-Bike Adj(A_pbT)                                                | 1.00                                                                              |                                                                                   | 1.00                                                                              | 1.00                                                                              |                                                                                   | 1.00                                                                              | 1.00                                                                                |                                                                                     | 1.00                                                                                | 1.00                                                                                |                                                                                     | 1.00                                                                                |
| Parking Bus, Adj                                                   | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                |
| Work Zone On Approach                                              |                                                                                   | No                                                                                |                                                                                   |                                                                                   | No                                                                                |                                                                                   |                                                                                     | No                                                                                  |                                                                                     |                                                                                     | No                                                                                  |                                                                                     |
| Adj Sat Flow, veh/h/ln                                             | 1870                                                                              | 1870                                                                              | 1870                                                                              | 1870                                                                              | 1870                                                                              | 1870                                                                              | 1870                                                                                | 1870                                                                                | 1870                                                                                | 1870                                                                                | 1870                                                                                | 1870                                                                                |
| Adj Flow Rate, veh/h                                               | 1                                                                                 | 274                                                                               | 100                                                                               | 42                                                                                | 500                                                                               | 1                                                                                 | 226                                                                                 | 1                                                                                   | 95                                                                                  | 1                                                                                   | 2                                                                                   | 1                                                                                   |
| Peak Hour Factor                                                   | 0.95                                                                              | 0.95                                                                              | 0.95                                                                              | 0.95                                                                              | 0.95                                                                              | 0.95                                                                              | 0.95                                                                                | 0.95                                                                                | 0.95                                                                                | 0.95                                                                                | 0.95                                                                                | 0.95                                                                                |
| Percent Heavy Veh, %                                               | 2                                                                                 | 2                                                                                 | 2                                                                                 | 2                                                                                 | 2                                                                                 | 2                                                                                 | 2                                                                                   | 2                                                                                   | 2                                                                                   | 2                                                                                   | 2                                                                                   | 2                                                                                   |
| Cap, veh/h                                                         | 596                                                                               | 2152                                                                              | 960                                                                               | 711                                                                               | 2324                                                                              | 5                                                                                 | 375                                                                                 | 393                                                                                 | 333                                                                                 | 55                                                                                  | 54                                                                                  | 21                                                                                  |
| Arrive On Green                                                    | 0.00                                                                              | 0.61                                                                              | 0.61                                                                              | 0.03                                                                              | 0.64                                                                              | 0.64                                                                              | 0.11                                                                                | 0.21                                                                                | 0.21                                                                                | 0.05                                                                                | 0.05                                                                                | 0.05                                                                                |
| Sat Flow, veh/h                                                    | 1781                                                                              | 3554                                                                              | 1585                                                                              | 1781                                                                              | 3639                                                                              | 7                                                                                 | 1781                                                                                | 1870                                                                                | 1585                                                                                | 197                                                                                 | 1083                                                                                | 427                                                                                 |
| Grp Volume(v), veh/h                                               | 1                                                                                 | 274                                                                               | 100                                                                               | 42                                                                                | 244                                                                               | 257                                                                               | 226                                                                                 | 1                                                                                   | 95                                                                                  | 4                                                                                   | 0                                                                                   | 0                                                                                   |
| Grp Sat Flow(s),veh/h/ln                                           | 1781                                                                              | 1777                                                                              | 1585                                                                              | 1781                                                                              | 1777                                                                              | 1869                                                                              | 1781                                                                                | 1870                                                                                | 1585                                                                                | 1707                                                                                | 0                                                                                   | 0                                                                                   |
| Q Serve(g_s), s                                                    | 0.0                                                                               | 3.3                                                                               | 2.7                                                                               | 0.9                                                                               | 5.8                                                                               | 5.8                                                                               | 11.0                                                                                | 0.0                                                                                 | 5.0                                                                                 | 0.0                                                                                 | 0.0                                                                                 | 0.0                                                                                 |
| Cycle Q Clear(g_c), s                                              | 0.0                                                                               | 3.3                                                                               | 2.7                                                                               | 0.9                                                                               | 5.8                                                                               | 5.8                                                                               | 11.0                                                                                | 0.0                                                                                 | 5.0                                                                                 | 0.2                                                                                 | 0.0                                                                                 | 0.0                                                                                 |
| Prop In Lane                                                       | 1.00                                                                              |                                                                                   | 1.00                                                                              | 1.00                                                                              |                                                                                   | 0.00                                                                              | 1.00                                                                                |                                                                                     | 1.00                                                                                | 0.25                                                                                |                                                                                     | 0.25                                                                                |
| Lane Grp Cap(c), veh/h                                             | 596                                                                               | 2152                                                                              | 960                                                                               | 711                                                                               | 1135                                                                              | 1194                                                                              | 375                                                                                 | 393                                                                                 | 333                                                                                 | 130                                                                                 | 0                                                                                   | 0                                                                                   |
| V/C Ratio(X)                                                       | 0.00                                                                              | 0.13                                                                              | 0.10                                                                              | 0.06                                                                              | 0.22                                                                              | 0.22                                                                              | 0.60                                                                                | 0.00                                                                                | 0.29                                                                                | 0.03                                                                                | 0.00                                                                                | 0.00                                                                                |
| Avail Cap(c_a), veh/h                                              | 718                                                                               | 2152                                                                              | 960                                                                               | 774                                                                               | 1135                                                                              | 1194                                                                              | 375                                                                                 | 468                                                                                 | 396                                                                                 | 195                                                                                 | 0                                                                                   | 0                                                                                   |
| HCM Platoon Ratio                                                  | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                |
| Upstream Filter(I)                                                 | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 0.00                                                                                | 0.00                                                                                |
| Uniform Delay (d), s/veh                                           | 7.8                                                                               | 8.4                                                                               | 8.3                                                                               | 6.6                                                                               | 7.6                                                                               | 7.6                                                                               | 38.5                                                                                | 31.2                                                                                | 33.2                                                                                | 45.2                                                                                | 0.0                                                                                 | 0.0                                                                                 |
| Incr Delay (d2), s/veh                                             | 0.0                                                                               | 0.1                                                                               | 0.2                                                                               | 0.0                                                                               | 0.4                                                                               | 0.4                                                                               | 2.7                                                                                 | 0.0                                                                                 | 0.5                                                                                 | 0.1                                                                                 | 0.0                                                                                 | 0.0                                                                                 |
| Initial Q Delay(d3),s/veh                                          | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               | 0.0                                                                                 | 0.0                                                                                 | 0.0                                                                                 | 0.0                                                                                 | 0.0                                                                                 | 0.0                                                                                 |
| %ile BackOfQ(50%),veh/ln                                           | 0.0                                                                               | 1.1                                                                               | 0.8                                                                               | 0.3                                                                               | 2.0                                                                               | 2.1                                                                               | 5.4                                                                                 | 0.0                                                                                 | 1.9                                                                                 | 0.1                                                                                 | 0.0                                                                                 | 0.0                                                                                 |
| Unsig. Movement Delay, s/veh                                       |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| LnGrp Delay(d),s/veh                                               | 7.8                                                                               | 8.6                                                                               | 8.5                                                                               | 6.6                                                                               | 8.0                                                                               | 8.0                                                                               | 41.2                                                                                | 31.2                                                                                | 33.7                                                                                | 45.3                                                                                | 0.0                                                                                 | 0.0                                                                                 |
| LnGrp LOS                                                          | A                                                                                 | A                                                                                 | A                                                                                 | A                                                                                 | A                                                                                 | A                                                                                 | D                                                                                   | C                                                                                   | C                                                                                   | D                                                                                   | A                                                                                   | A                                                                                   |
| Approach Vol, veh/h                                                |                                                                                   | 375                                                                               |                                                                                   |                                                                                   | 543                                                                               |                                                                                   |                                                                                     | 322                                                                                 |                                                                                     |                                                                                     | 4                                                                                   |                                                                                     |
| Approach Delay, s/veh                                              |                                                                                   | 8.5                                                                               |                                                                                   |                                                                                   | 7.9                                                                               |                                                                                   |                                                                                     | 39.0                                                                                |                                                                                     |                                                                                     | 45.3                                                                                |                                                                                     |
| Approach LOS                                                       |                                                                                   | A                                                                                 |                                                                                   |                                                                                   | A                                                                                 |                                                                                   |                                                                                     | D                                                                                   |                                                                                     |                                                                                     | D                                                                                   |                                                                                     |
| Timer - Assigned Phs                                               |                                                                                   | 2                                                                                 | 3                                                                                 | 4                                                                                 | 5                                                                                 | 6                                                                                 | 7                                                                                   | 8                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Phs Duration (G+Y+Rc), s                                           |                                                                                   | 26.0                                                                              | 8.4                                                                               | 65.6                                                                              | 16.0                                                                              | 10.0                                                                              | 5.1                                                                                 | 68.9                                                                                |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Change Period (Y+Rc), s                                            |                                                                                   | 5.0                                                                               | 5.0                                                                               | 5.0                                                                               | 5.0                                                                               | 5.0                                                                               | 5.0                                                                                 | 5.0                                                                                 |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Max Green Setting (Gmax), s                                        |                                                                                   | 25.0                                                                              | 7.0                                                                               | 53.0                                                                              | 11.0                                                                              | 9.0                                                                               | 7.0                                                                                 | 53.0                                                                                |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Max Q Clear Time (g_c+I1), s                                       |                                                                                   | 7.0                                                                               | 2.9                                                                               | 5.3                                                                               | 13.0                                                                              | 2.2                                                                               | 2.0                                                                                 | 7.8                                                                                 |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Green Ext Time (p_c), s                                            |                                                                                   | 0.2                                                                               | 0.0                                                                               | 2.0                                                                               | 0.0                                                                               | 0.0                                                                               | 0.0                                                                                 | 2.8                                                                                 |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| <b>Intersection Summary</b>                                        |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| HCM 6th Ctrl Delay                                                 |                                                                                   |                                                                                   | 16.2                                                                              |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| HCM 6th LOS                                                        |                                                                                   |                                                                                   | B                                                                                 |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| <b>Notes</b>                                                       |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| User approved pedestrian interval to be less than phase max green. |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |

HCM 6th TWSC  
2: Idylwood St & Crystal Valley Pkwy

2028 Background  
AM Peak - Signal at #1

| Intersection             |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |        |      |                                                                                     |
|--------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|------------------------------------------------------------------------------------|--------|------|-------------------------------------------------------------------------------------|
| Int Delay, s/veh         | 2.2                                                                               |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |        |      |                                                                                     |
| Movement                 | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | WBR                                                                               | NBL                                                                               | NBT                                                                               | NBR                                                                                | SBL    | SBT  | SBR                                                                                 |
| Lane Configurations      |  |  |  |  |  |  |  |  |  |        |      |  |
| Traffic Vol, veh/h       | 6                                                                                 | 330                                                                               | 16                                                                                | 7                                                                                 | 450                                                                               | 3                                                                                 | 45                                                                                | 1                                                                                 | 20                                                                                 | 0      | 0    | 22                                                                                  |
| Future Vol, veh/h        | 6                                                                                 | 330                                                                               | 16                                                                                | 7                                                                                 | 450                                                                               | 3                                                                                 | 45                                                                                | 1                                                                                 | 20                                                                                 | 0      | 0    | 22                                                                                  |
| Conflicting Peds, #/hr   | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                  | 0      | 0    | 0                                                                                   |
| Sign Control             | Free                                                                              | Free                                                                              | Free                                                                              | Free                                                                              | Free                                                                              | Free                                                                              | Stop                                                                              | Stop                                                                              | Stop                                                                               | Stop   | Stop | Stop                                                                                |
| RT Channelized           | -                                                                                 | -                                                                                 | None                                                                              | -                                                                                 | -                                                                                 | None                                                                              | -                                                                                 | -                                                                                 | None                                                                               | -      | -    | None                                                                                |
| Storage Length           | 255                                                                               | -                                                                                 | -                                                                                 | 225                                                                               | -                                                                                 | 315                                                                               | -                                                                                 | -                                                                                 | -                                                                                  | -      | -    | 0                                                                                   |
| Veh in Median Storage, # | -                                                                                 | 0                                                                                 | -                                                                                 | -                                                                                 | 0                                                                                 | -                                                                                 | -                                                                                 | 0                                                                                 | -                                                                                  | -      | 0    | -                                                                                   |
| Grade, %                 | -                                                                                 | 0                                                                                 | -                                                                                 | -                                                                                 | 0                                                                                 | -                                                                                 | -                                                                                 | 0                                                                                 | -                                                                                  | -      | 0    | -                                                                                   |
| Peak Hour Factor         | 80                                                                                | 80                                                                                | 80                                                                                | 80                                                                                | 80                                                                                | 80                                                                                | 80                                                                                | 80                                                                                | 80                                                                                 | 80     | 80   | 80                                                                                  |
| Heavy Vehicles, %        | 2                                                                                 | 2                                                                                 | 2                                                                                 | 2                                                                                 | 2                                                                                 | 2                                                                                 | 2                                                                                 | 2                                                                                 | 2                                                                                  | 2      | 2    | 2                                                                                   |
| Mvmt Flow                | 8                                                                                 | 413                                                                               | 20                                                                                | 9                                                                                 | 563                                                                               | 4                                                                                 | 56                                                                                | 1                                                                                 | 25                                                                                 | 0      | 0    | 28                                                                                  |
| Major/Minor              | Major1                                                                            |                                                                                   |                                                                                   | Major2                                                                            |                                                                                   |                                                                                   | Minor1                                                                            |                                                                                   |                                                                                    | Minor2 |      |                                                                                     |
| Conflicting Flow All     | 567                                                                               | 0                                                                                 | 0                                                                                 | 433                                                                               | 0                                                                                 | 0                                                                                 | 1026                                                                              | 1014                                                                              | 413                                                                                | -      | -    | 563                                                                                 |
| Stage 1                  | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | 429                                                                               | 429                                                                               | -                                                                                  | -      | -    | -                                                                                   |
| Stage 2                  | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | 597                                                                               | 585                                                                               | -                                                                                  | -      | -    | -                                                                                   |
| Critical Hdwy            | 4.12                                                                              | -                                                                                 | -                                                                                 | 4.12                                                                              | -                                                                                 | -                                                                                 | 7.12                                                                              | 6.52                                                                              | 6.22                                                                               | -      | -    | 6.22                                                                                |
| Critical Hdwy Stg 1      | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | 6.12                                                                              | 5.52                                                                              | -                                                                                  | -      | -    | -                                                                                   |
| Critical Hdwy Stg 2      | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | 6.12                                                                              | 5.52                                                                              | -                                                                                  | -      | -    | -                                                                                   |
| Follow-up Hdwy           | 2.218                                                                             | -                                                                                 | -                                                                                 | 2.218                                                                             | -                                                                                 | -                                                                                 | 3.518                                                                             | 4.018                                                                             | 3.318                                                                              | -      | -    | 3.318                                                                               |
| Pot Cap-1 Maneuver       | 1005                                                                              | -                                                                                 | -                                                                                 | 1136                                                                              | -                                                                                 | -                                                                                 | 204                                                                               | 224                                                                               | 748                                                                                | 0      | 0    | 526                                                                                 |
| Stage 1                  | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | 691                                                                               | 621                                                                               | -                                                                                  | 0      | 0    | -                                                                                   |
| Stage 2                  | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | 490                                                                               | 498                                                                               | -                                                                                  | 0      | 0    | -                                                                                   |
| Platoon blocked, %       |                                                                                   | -                                                                                 | -                                                                                 | 1                                                                                 | -                                                                                 | -                                                                                 | 1                                                                                 | 1                                                                                 | 1                                                                                  |        |      |                                                                                     |
| Mov Cap-1 Maneuver       | 1005                                                                              | -                                                                                 | -                                                                                 | 1136                                                                              | -                                                                                 | -                                                                                 | 191                                                                               | 220                                                                               | 748                                                                                | -      | -    | 526                                                                                 |
| Mov Cap-2 Maneuver       | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | 191                                                                               | 220                                                                               | -                                                                                  | -      | -    | -                                                                                   |
| Stage 1                  | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | 686                                                                               | 616                                                                               | -                                                                                  | -      | -    | -                                                                                   |
| Stage 2                  | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | 461                                                                               | 494                                                                               | -                                                                                  | -      | -    | -                                                                                   |
| Approach                 | EB                                                                                |                                                                                   |                                                                                   | WB                                                                                |                                                                                   |                                                                                   | NB                                                                                |                                                                                   |                                                                                    | SB     |      |                                                                                     |
| HCM Control Delay, s     | 0.1                                                                               |                                                                                   |                                                                                   | 0.1                                                                               |                                                                                   |                                                                                   | 24.9                                                                              |                                                                                   |                                                                                    | 12.2   |      |                                                                                     |
| HCM LOS                  |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   | C                                                                                 |                                                                                   |                                                                                    | B      |      |                                                                                     |
| Minor Lane/Major Mvmt    | NBLn1                                                                             | NBLn2                                                                             | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | WBR                                                                               | SBLn1                                                                              |        |      |                                                                                     |
| Capacity (veh/h)         | 191                                                                               | 671                                                                               | 1005                                                                              | -                                                                                 | -                                                                                 | 1136                                                                              | -                                                                                 | -                                                                                 | 526                                                                                |        |      |                                                                                     |
| HCM Lane V/C Ratio       | 0.295                                                                             | 0.039                                                                             | 0.007                                                                             | -                                                                                 | -                                                                                 | 0.008                                                                             | -                                                                                 | -                                                                                 | 0.052                                                                              |        |      |                                                                                     |
| HCM Control Delay (s)    | 31.5                                                                              | 10.6                                                                              | 8.6                                                                               | -                                                                                 | -                                                                                 | 8.2                                                                               | -                                                                                 | -                                                                                 | 12.2                                                                               |        |      |                                                                                     |
| HCM Lane LOS             | D                                                                                 | B                                                                                 | A                                                                                 | -                                                                                 | -                                                                                 | A                                                                                 | -                                                                                 | -                                                                                 | B                                                                                  |        |      |                                                                                     |
| HCM 95th %tile Q(veh)    | 1.2                                                                               | 0.1                                                                               | 0                                                                                 | -                                                                                 | -                                                                                 | 0                                                                                 | -                                                                                 | -                                                                                 | 0.2                                                                                |        |      |                                                                                     |

# HCM 6th AWSC

## 3: Lake Gulch Rd & Crystal Valley Pkwy

2028 Background  
AM Peak - Signal at #1

| Intersection              |      |
|---------------------------|------|
| Intersection Delay, s/veh | 11.5 |
| Intersection LOS          | B    |

| Movement            | EBL                                                                               | EBR                                                                               | NBL                                                                               | NBT                                                                               | SBT                                                                               | SBR                                                                               |
|---------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|
| Lane Configurations |  |  |  |  |  |  |
| Traffic Vol, veh/h  | 290                                                                               | 20                                                                                | 25                                                                                | 65                                                                                | 30                                                                                | 150                                                                               |
| Future Vol, veh/h   | 290                                                                               | 20                                                                                | 25                                                                                | 65                                                                                | 30                                                                                | 150                                                                               |
| Peak Hour Factor    | 0.93                                                                              | 0.93                                                                              | 0.93                                                                              | 0.93                                                                              | 0.93                                                                              | 0.93                                                                              |
| Heavy Vehicles, %   | 2                                                                                 | 2                                                                                 | 2                                                                                 | 2                                                                                 | 2                                                                                 | 2                                                                                 |
| Mvmt Flow           | 312                                                                               | 22                                                                                | 27                                                                                | 70                                                                                | 32                                                                                | 161                                                                               |
| Number of Lanes     | 1                                                                                 | 1                                                                                 | 1                                                                                 | 1                                                                                 | 1                                                                                 | 1                                                                                 |

| Approach                   | EB   | NB  | SB |
|----------------------------|------|-----|----|
| Opposing Approach          |      | SB  | NB |
| Opposing Lanes             | 0    | 2   | 2  |
| Conflicting Approach Left  | SB   | EB  |    |
| Conflicting Lanes Left     | 2    | 2   | 0  |
| Conflicting Approach Right | NB   |     | EB |
| Conflicting Lanes Right    | 2    | 0   | 2  |
| HCM Control Delay          | 13.7 | 9.2 | 9  |
| HCM LOS                    | B    | A   | A  |

| Lane                   | NBLn1 | NBLn2 | EBLn1 | EBLn2 | SBLn1 | SBLn2 |
|------------------------|-------|-------|-------|-------|-------|-------|
| Vol Left, %            | 100%  | 0%    | 100%  | 0%    | 0%    | 0%    |
| Vol Thru, %            | 0%    | 100%  | 0%    | 0%    | 100%  | 0%    |
| Vol Right, %           | 0%    | 0%    | 0%    | 100%  | 0%    | 100%  |
| Sign Control           | Stop  | Stop  | Stop  | Stop  | Stop  | Stop  |
| Traffic Vol by Lane    | 25    | 65    | 290   | 20    | 30    | 150   |
| LT Vol                 | 25    | 0     | 290   | 0     | 0     | 0     |
| Through Vol            | 0     | 65    | 0     | 0     | 30    | 0     |
| RT Vol                 | 0     | 0     | 0     | 20    | 0     | 150   |
| Lane Flow Rate         | 27    | 70    | 312   | 22    | 32    | 161   |
| Geometry Grp           | 5     | 5     | 5     | 5     | 5     | 5     |
| Degree of Util (X)     | 0.047 | 0.111 | 0.498 | 0.027 | 0.051 | 0.221 |
| Departure Headway (Hd) | 6.235 | 5.729 | 5.745 | 4.541 | 5.64  | 4.932 |
| Convergence, Y/N       | Yes   | Yes   | Yes   | Yes   | Yes   | Yes   |
| Cap                    | 572   | 622   | 624   | 782   | 633   | 724   |
| Service Time           | 4.004 | 3.498 | 3.512 | 2.308 | 3.396 | 2.688 |
| HCM Lane V/C Ratio     | 0.047 | 0.113 | 0.5   | 0.028 | 0.051 | 0.222 |
| HCM Control Delay      | 9.3   | 9.2   | 14.1  | 7.4   | 8.7   | 9.1   |
| HCM Lane LOS           | A     | A     | B     | A     | A     | A     |
| HCM 95th-tile Q        | 0.1   | 0.4   | 2.8   | 0.1   | 0.2   | 0.8   |

# HCM 6th Signalized Intersection Summary

## 1: Loop Rd & Crystal Valley Pkwy

2028 Background  
PM Peak - Signal at #1

|                                                                    |  |  |  |  |  |  |  |  |  |  |  |  |
|--------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Movement                                                           | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | WBR                                                                               | NBL                                                                                 | NBT                                                                                 | NBR                                                                                 | SBL                                                                                 | SBT                                                                                 | SBR                                                                                 |
| Lane Configurations                                                |  |  |  |  |  |                                                                                   |  |  |  |                                                                                     |  |                                                                                     |
| Traffic Volume (veh/h)                                             | 8                                                                                 | 415                                                                               | 215                                                                               | 95                                                                                | 315                                                                               | 4                                                                                 | 140                                                                                 | 1                                                                                   | 60                                                                                  | 5                                                                                   | 1                                                                                   | 12                                                                                  |
| Future Volume (veh/h)                                              | 8                                                                                 | 415                                                                               | 215                                                                               | 95                                                                                | 315                                                                               | 4                                                                                 | 140                                                                                 | 1                                                                                   | 60                                                                                  | 5                                                                                   | 1                                                                                   | 12                                                                                  |
| Initial Q (Qb), veh                                                | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                   | 0                                                                                   | 0                                                                                   | 0                                                                                   | 0                                                                                   | 0                                                                                   |
| Ped-Bike Adj(A_pbT)                                                | 1.00                                                                              |                                                                                   | 1.00                                                                              | 1.00                                                                              |                                                                                   | 1.00                                                                              | 1.00                                                                                |                                                                                     | 1.00                                                                                | 1.00                                                                                |                                                                                     | 1.00                                                                                |
| Parking Bus, Adj                                                   | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                |
| Work Zone On Approach                                              |                                                                                   | No                                                                                |                                                                                   |                                                                                   | No                                                                                |                                                                                   |                                                                                     | No                                                                                  |                                                                                     |                                                                                     | No                                                                                  |                                                                                     |
| Adj Sat Flow, veh/h/ln                                             | 1870                                                                              | 1870                                                                              | 1870                                                                              | 1870                                                                              | 1870                                                                              | 1870                                                                              | 1870                                                                                | 1870                                                                                | 1870                                                                                | 1870                                                                                | 1870                                                                                | 1870                                                                                |
| Adj Flow Rate, veh/h                                               | 9                                                                                 | 451                                                                               | 234                                                                               | 103                                                                               | 342                                                                               | 4                                                                                 | 152                                                                                 | 1                                                                                   | 65                                                                                  | 5                                                                                   | 1                                                                                   | 13                                                                                  |
| Peak Hour Factor                                                   | 0.92                                                                              | 0.92                                                                              | 0.92                                                                              | 0.92                                                                              | 0.92                                                                              | 0.92                                                                              | 0.92                                                                                | 0.92                                                                                | 0.92                                                                                | 0.92                                                                                | 0.92                                                                                | 0.92                                                                                |
| Percent Heavy Veh, %                                               | 2                                                                                 | 2                                                                                 | 2                                                                                 | 2                                                                                 | 2                                                                                 | 2                                                                                 | 2                                                                                   | 2                                                                                   | 2                                                                                   | 2                                                                                   | 2                                                                                   | 2                                                                                   |
| Cap, veh/h                                                         | 717                                                                               | 2154                                                                              | 961                                                                               | 571                                                                               | 2310                                                                              | 27                                                                                | 354                                                                                 | 368                                                                                 | 312                                                                                 | 58                                                                                  | 12                                                                                  | 54                                                                                  |
| Arrive On Green                                                    | 0.01                                                                              | 0.61                                                                              | 0.61                                                                              | 0.05                                                                              | 0.64                                                                              | 0.64                                                                              | 0.10                                                                                | 0.20                                                                                | 0.20                                                                                | 0.05                                                                                | 0.05                                                                                | 0.05                                                                                |
| Sat Flow, veh/h                                                    | 1781                                                                              | 3554                                                                              | 1585                                                                              | 1781                                                                              | 3598                                                                              | 42                                                                                | 1781                                                                                | 1870                                                                                | 1585                                                                                | 248                                                                                 | 250                                                                                 | 1079                                                                                |
| Grp Volume(v), veh/h                                               | 9                                                                                 | 451                                                                               | 234                                                                               | 103                                                                               | 169                                                                               | 177                                                                               | 152                                                                                 | 1                                                                                   | 65                                                                                  | 19                                                                                  | 0                                                                                   | 0                                                                                   |
| Grp Sat Flow(s),veh/h/ln                                           | 1781                                                                              | 1777                                                                              | 1585                                                                              | 1781                                                                              | 1777                                                                              | 1863                                                                              | 1781                                                                                | 1870                                                                                | 1585                                                                                | 1577                                                                                | 0                                                                                   | 0                                                                                   |
| Q Serve(g_s), s                                                    | 0.2                                                                               | 5.7                                                                               | 6.8                                                                               | 2.1                                                                               | 3.8                                                                               | 3.8                                                                               | 7.8                                                                                 | 0.0                                                                                 | 3.4                                                                                 | 0.0                                                                                 | 0.0                                                                                 | 0.0                                                                                 |
| Cycle Q Clear(g_c), s                                              | 0.2                                                                               | 5.7                                                                               | 6.8                                                                               | 2.1                                                                               | 3.8                                                                               | 3.8                                                                               | 7.8                                                                                 | 0.0                                                                                 | 3.4                                                                                 | 1.1                                                                                 | 0.0                                                                                 | 0.0                                                                                 |
| Prop In Lane                                                       | 1.00                                                                              |                                                                                   | 1.00                                                                              | 1.00                                                                              |                                                                                   | 0.02                                                                              | 1.00                                                                                |                                                                                     | 1.00                                                                                | 0.26                                                                                |                                                                                     | 0.68                                                                                |
| Lane Grp Cap(c), veh/h                                             | 717                                                                               | 2154                                                                              | 961                                                                               | 571                                                                               | 1141                                                                              | 1196                                                                              | 354                                                                                 | 368                                                                                 | 312                                                                                 | 124                                                                                 | 0                                                                                   | 0                                                                                   |
| V/C Ratio(X)                                                       | 0.01                                                                              | 0.21                                                                              | 0.24                                                                              | 0.18                                                                              | 0.15                                                                              | 0.15                                                                              | 0.43                                                                                | 0.00                                                                                | 0.21                                                                                | 0.15                                                                                | 0.00                                                                                | 0.00                                                                                |
| Avail Cap(c_a), veh/h                                              | 822                                                                               | 2154                                                                              | 961                                                                               | 612                                                                               | 1141                                                                              | 1196                                                                              | 378                                                                                 | 468                                                                                 | 396                                                                                 | 185                                                                                 | 0                                                                                   | 0                                                                                   |
| HCM Platoon Ratio                                                  | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                |
| Upstream Filter(I)                                                 | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 0.00                                                                                | 0.00                                                                                |
| Uniform Delay (d), s/veh                                           | 7.4                                                                               | 8.9                                                                               | 9.1                                                                               | 6.4                                                                               | 7.1                                                                               | 7.1                                                                               | 38.0                                                                                | 32.3                                                                                | 33.6                                                                                | 45.6                                                                                | 0.0                                                                                 | 0.0                                                                                 |
| Incr Delay (d2), s/veh                                             | 0.0                                                                               | 0.2                                                                               | 0.6                                                                               | 0.1                                                                               | 0.3                                                                               | 0.3                                                                               | 0.8                                                                                 | 0.0                                                                                 | 0.3                                                                                 | 0.6                                                                                 | 0.0                                                                                 | 0.0                                                                                 |
| Initial Q Delay(d3),s/veh                                          | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               | 0.0                                                                                 | 0.0                                                                                 | 0.0                                                                                 | 0.0                                                                                 | 0.0                                                                                 | 0.0                                                                                 |
| %ile BackOfQ(50%),veh/ln                                           | 0.1                                                                               | 2.0                                                                               | 2.2                                                                               | 0.7                                                                               | 1.3                                                                               | 1.3                                                                               | 3.4                                                                                 | 0.0                                                                                 | 1.3                                                                                 | 0.5                                                                                 | 0.0                                                                                 | 0.0                                                                                 |
| Unsig. Movement Delay, s/veh                                       |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| LnGrp Delay(d),s/veh                                               | 7.4                                                                               | 9.1                                                                               | 9.7                                                                               | 6.5                                                                               | 7.3                                                                               | 7.3                                                                               | 38.8                                                                                | 32.3                                                                                | 34.0                                                                                | 46.2                                                                                | 0.0                                                                                 | 0.0                                                                                 |
| LnGrp LOS                                                          | A                                                                                 | A                                                                                 | A                                                                                 | A                                                                                 | A                                                                                 | A                                                                                 | D                                                                                   | C                                                                                   | C                                                                                   | D                                                                                   | A                                                                                   | A                                                                                   |
| Approach Vol, veh/h                                                |                                                                                   | 694                                                                               |                                                                                   |                                                                                   | 449                                                                               |                                                                                   |                                                                                     | 218                                                                                 |                                                                                     |                                                                                     | 19                                                                                  |                                                                                     |
| Approach Delay, s/veh                                              |                                                                                   | 9.3                                                                               |                                                                                   |                                                                                   | 7.2                                                                               |                                                                                   |                                                                                     | 37.3                                                                                |                                                                                     |                                                                                     | 46.2                                                                                |                                                                                     |
| Approach LOS                                                       |                                                                                   | A                                                                                 |                                                                                   |                                                                                   | A                                                                                 |                                                                                   |                                                                                     | D                                                                                   |                                                                                     |                                                                                     | D                                                                                   |                                                                                     |
| Timer - Assigned Phs                                               |                                                                                   | 2                                                                                 | 3                                                                                 | 4                                                                                 | 5                                                                                 | 6                                                                                 | 7                                                                                   | 8                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Phs Duration (G+Y+Rc), s                                           |                                                                                   | 24.7                                                                              | 9.7                                                                               | 65.6                                                                              | 14.7                                                                              | 10.0                                                                              | 6.1                                                                                 | 69.2                                                                                |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Change Period (Y+Rc), s                                            |                                                                                   | 5.0                                                                               | 5.0                                                                               | 5.0                                                                               | 5.0                                                                               | 5.0                                                                               | 5.0                                                                                 | 5.0                                                                                 |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Max Green Setting (Gmax), s                                        |                                                                                   | 25.0                                                                              | 7.0                                                                               | 53.0                                                                              | 11.0                                                                              | 9.0                                                                               | 7.0                                                                                 | 53.0                                                                                |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Max Q Clear Time (g_c+I1), s                                       |                                                                                   | 5.4                                                                               | 4.1                                                                               | 8.8                                                                               | 9.8                                                                               | 3.1                                                                               | 2.2                                                                                 | 5.8                                                                                 |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Green Ext Time (p_c), s                                            |                                                                                   | 0.1                                                                               | 0.1                                                                               | 3.8                                                                               | 0.0                                                                               | 0.0                                                                               | 0.0                                                                                 | 1.9                                                                                 |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| <b>Intersection Summary</b>                                        |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| HCM 6th Ctrl Delay                                                 |                                                                                   |                                                                                   | 13.5                                                                              |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| HCM 6th LOS                                                        |                                                                                   |                                                                                   | B                                                                                 |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| <b>Notes</b>                                                       |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| User approved pedestrian interval to be less than phase max green. |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |

HCM 6th TWSC  
2: Idylwood St & Crystal Valley Pkwy

2028 Background  
PM Peak - Signal at #1

| Intersection             |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |        |      |                                                                                     |
|--------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|--------|------|-------------------------------------------------------------------------------------|
| Int Delay, s/veh         | 1.4                                                                               |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |        |      |                                                                                     |
| Movement                 | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | WBR                                                                               | NBL                                                                               | NBT                                                                               | NBR                                                                               | SBL    | SBT  | SBR                                                                                 |
| Lane Configurations      |  |  |  |  |  |  |  |  |  |        |      |  |
| Traffic Vol, veh/h       | 18                                                                                | 420                                                                               | 42                                                                                | 18                                                                                | 375                                                                               | 8                                                                                 | 23                                                                                | 2                                                                                 | 10                                                                                | 0      | 0    | 13                                                                                  |
| Future Vol, veh/h        | 18                                                                                | 420                                                                               | 42                                                                                | 18                                                                                | 375                                                                               | 8                                                                                 | 23                                                                                | 2                                                                                 | 10                                                                                | 0      | 0    | 13                                                                                  |
| Conflicting Peds, #/hr   | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0      | 0    | 0                                                                                   |
| Sign Control             | Free                                                                              | Free                                                                              | Free                                                                              | Free                                                                              | Free                                                                              | Free                                                                              | Stop                                                                              | Stop                                                                              | Stop                                                                              | Stop   | Stop | Stop                                                                                |
| RT Channelized           | -                                                                                 | -                                                                                 | None                                                                              | -                                                                                 | -                                                                                 | None                                                                              | -                                                                                 | -                                                                                 | None                                                                              | -      | -    | None                                                                                |
| Storage Length           | 255                                                                               | -                                                                                 | -                                                                                 | 225                                                                               | -                                                                                 | 315                                                                               | -                                                                                 | -                                                                                 | -                                                                                 | -      | -    | 0                                                                                   |
| Veh in Median Storage, # | -                                                                                 | 0                                                                                 | -                                                                                 | -                                                                                 | 0                                                                                 | -                                                                                 | -                                                                                 | 0                                                                                 | -                                                                                 | -      | 0    | -                                                                                   |
| Grade, %                 | -                                                                                 | 0                                                                                 | -                                                                                 | -                                                                                 | 0                                                                                 | -                                                                                 | -                                                                                 | 0                                                                                 | -                                                                                 | -      | 0    | -                                                                                   |
| Peak Hour Factor         | 83                                                                                | 83                                                                                | 83                                                                                | 83                                                                                | 83                                                                                | 83                                                                                | 83                                                                                | 83                                                                                | 83                                                                                | 83     | 83   | 83                                                                                  |
| Heavy Vehicles, %        | 2                                                                                 | 2                                                                                 | 2                                                                                 | 2                                                                                 | 2                                                                                 | 2                                                                                 | 2                                                                                 | 2                                                                                 | 2                                                                                 | 2      | 2    | 2                                                                                   |
| Mvmt Flow                | 22                                                                                | 506                                                                               | 51                                                                                | 22                                                                                | 452                                                                               | 10                                                                                | 28                                                                                | 2                                                                                 | 12                                                                                | 0      | 0    | 16                                                                                  |
| Major/Minor              | Major1                                                                            |                                                                                   |                                                                                   | Major2                                                                            |                                                                                   |                                                                                   | Minor1                                                                            |                                                                                   |                                                                                   | Minor2 |      |                                                                                     |
| Conflicting Flow All     | 462                                                                               | 0                                                                                 | 0                                                                                 | 557                                                                               | 0                                                                                 | 0                                                                                 | 1059                                                                              | 1056                                                                              | 506                                                                               | -      | -    | 452                                                                                 |
| Stage 1                  | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | 550                                                                               | 550                                                                               | -                                                                                 | -      | -    | -                                                                                   |
| Stage 2                  | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | 509                                                                               | 506                                                                               | -                                                                                 | -      | -    | -                                                                                   |
| Critical Hdwy            | 4.12                                                                              | -                                                                                 | -                                                                                 | 4.12                                                                              | -                                                                                 | -                                                                                 | 7.12                                                                              | 6.52                                                                              | 6.22                                                                              | -      | -    | 6.22                                                                                |
| Critical Hdwy Stg 1      | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | 6.12                                                                              | 5.52                                                                              | -                                                                                 | -      | -    | -                                                                                   |
| Critical Hdwy Stg 2      | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | 6.12                                                                              | 5.52                                                                              | -                                                                                 | -      | -    | -                                                                                   |
| Follow-up Hdwy           | 2.218                                                                             | -                                                                                 | -                                                                                 | 2.218                                                                             | -                                                                                 | -                                                                                 | 3.518                                                                             | 4.018                                                                             | 3.318                                                                             | -      | -    | 3.318                                                                               |
| Pot Cap-1 Maneuver       | 1099                                                                              | -                                                                                 | -                                                                                 | 1003                                                                              | -                                                                                 | -                                                                                 | 190                                                                               | 203                                                                               | 700                                                                               | 0      | 0    | 608                                                                                 |
| Stage 1                  | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | 612                                                                               | 550                                                                               | -                                                                                 | 0      | 0    | -                                                                                   |
| Stage 2                  | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | 547                                                                               | 540                                                                               | -                                                                                 | 0      | 0    | -                                                                                   |
| Platoon blocked, %       | -                                                                                 | -                                                                                 | -                                                                                 | 1                                                                                 | -                                                                                 | -                                                                                 | 1                                                                                 | 1                                                                                 | 1                                                                                 | -      | -    | -                                                                                   |
| Mov Cap-1 Maneuver       | 1099                                                                              | -                                                                                 | -                                                                                 | 1003                                                                              | -                                                                                 | -                                                                                 | 179                                                                               | 194                                                                               | 700                                                                               | -      | -    | 608                                                                                 |
| Mov Cap-2 Maneuver       | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | 179                                                                               | 194                                                                               | -                                                                                 | -      | -    | -                                                                                   |
| Stage 1                  | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | 600                                                                               | 539                                                                               | -                                                                                 | -      | -    | -                                                                                   |
| Stage 2                  | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | 521                                                                               | 528                                                                               | -                                                                                 | -      | -    | -                                                                                   |
| Approach                 | EB                                                                                |                                                                                   |                                                                                   | WB                                                                                |                                                                                   |                                                                                   | NB                                                                                |                                                                                   |                                                                                   | SB     |      |                                                                                     |
| HCM Control Delay, s     | 0.3                                                                               |                                                                                   |                                                                                   | 0.4                                                                               |                                                                                   |                                                                                   | 23.2                                                                              |                                                                                   |                                                                                   | 11.1   |      |                                                                                     |
| HCM LOS                  |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   | C                                                                                 |                                                                                   |                                                                                   | B      |      |                                                                                     |
| Minor Lane/Major Mvmt    | NBLn1                                                                             | NBLn2                                                                             | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | WBR                                                                               | SBLn1                                                                             |        |      |                                                                                     |
| Capacity (veh/h)         | 179                                                                               | 488                                                                               | 1099                                                                              | -                                                                                 | -                                                                                 | 1003                                                                              | -                                                                                 | -                                                                                 | 608                                                                               |        |      |                                                                                     |
| HCM Lane V/C Ratio       | 0.155                                                                             | 0.03                                                                              | 0.02                                                                              | -                                                                                 | -                                                                                 | 0.022                                                                             | -                                                                                 | -                                                                                 | 0.026                                                                             |        |      |                                                                                     |
| HCM Control Delay (s)    | 28.8                                                                              | 12.6                                                                              | 8.3                                                                               | -                                                                                 | -                                                                                 | 8.7                                                                               | -                                                                                 | -                                                                                 | 11.1                                                                              |        |      |                                                                                     |
| HCM Lane LOS             | D                                                                                 | B                                                                                 | A                                                                                 | -                                                                                 | -                                                                                 | A                                                                                 | -                                                                                 | -                                                                                 | B                                                                                 |        |      |                                                                                     |
| HCM 95th %tile Q(veh)    | 0.5                                                                               | 0.1                                                                               | 0.1                                                                               | -                                                                                 | -                                                                                 | 0.1                                                                               | -                                                                                 | -                                                                                 | 0.1                                                                               |        |      |                                                                                     |

# HCM 6th AWSC

## 3: Lake Gulch Rd & Crystal Valley Pkwy

2028 Background  
PM Peak - Signal at #1

| Intersection              |    |
|---------------------------|----|
| Intersection Delay, s/veh | 11 |
| Intersection LOS          | B  |

| Movement            | EBL                                                                               | EBR                                                                               | NBL                                                                               | NBT                                                                               | SBT                                                                               | SBR                                                                               |
|---------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|
| Lane Configurations |  |  |  |  |  |  |
| Traffic Vol, veh/h  | 190                                                                               | 45                                                                                | 40                                                                                | 30                                                                                | 60                                                                                | 300                                                                               |
| Future Vol, veh/h   | 190                                                                               | 45                                                                                | 40                                                                                | 30                                                                                | 60                                                                                | 300                                                                               |
| Peak Hour Factor    | 0.88                                                                              | 0.88                                                                              | 0.88                                                                              | 0.88                                                                              | 0.88                                                                              | 0.88                                                                              |
| Heavy Vehicles, %   | 2                                                                                 | 2                                                                                 | 2                                                                                 | 2                                                                                 | 2                                                                                 | 2                                                                                 |
| Mvmt Flow           | 216                                                                               | 51                                                                                | 45                                                                                | 34                                                                                | 68                                                                                | 341                                                                               |
| Number of Lanes     | 1                                                                                 | 1                                                                                 | 1                                                                                 | 1                                                                                 | 1                                                                                 | 1                                                                                 |

| Approach                   | EB   | NB  | SB   |
|----------------------------|------|-----|------|
| Opposing Approach          |      | SB  | NB   |
| Opposing Lanes             | 0    | 2   | 2    |
| Conflicting Approach Left  | SB   | EB  |      |
| Conflicting Lanes Left     | 2    | 2   | 0    |
| Conflicting Approach Right | NB   |     | EB   |
| Conflicting Lanes Right    | 2    | 0   | 2    |
| HCM Control Delay          | 11.7 | 9.3 | 10.9 |
| HCM LOS                    | B    | A   | B    |

| Lane                   | NBLn1 | NBLn2 | EBLn1 | EBLn2 | SBLn1 | SBLn2 |
|------------------------|-------|-------|-------|-------|-------|-------|
| Vol Left, %            | 100%  | 0%    | 100%  | 0%    | 0%    | 0%    |
| Vol Thru, %            | 0%    | 100%  | 0%    | 0%    | 100%  | 0%    |
| Vol Right, %           | 0%    | 0%    | 0%    | 100%  | 0%    | 100%  |
| Sign Control           | Stop  | Stop  | Stop  | Stop  | Stop  | Stop  |
| Traffic Vol by Lane    | 40    | 30    | 190   | 45    | 60    | 300   |
| LT Vol                 | 40    | 0     | 190   | 0     | 0     | 0     |
| Through Vol            | 0     | 30    | 0     | 0     | 60    | 0     |
| RT Vol                 | 0     | 0     | 0     | 45    | 0     | 300   |
| Lane Flow Rate         | 45    | 34    | 216   | 51    | 68    | 341   |
| Geometry Grp           | 5     | 5     | 5     | 5     | 5     | 5     |
| Degree of Util (X)     | 0.079 | 0.054 | 0.369 | 0.07  | 0.103 | 0.447 |
| Departure Headway (Hd) | 6.243 | 5.737 | 6.152 | 4.946 | 5.425 | 4.719 |
| Convergence, Y/N       | Yes   | Yes   | Yes   | Yes   | Yes   | Yes   |
| Cap                    | 570   | 619   | 581   | 716   | 658   | 760   |
| Service Time           | 4.03  | 3.523 | 3.94  | 2.733 | 3.179 | 2.473 |
| HCM Lane V/C Ratio     | 0.079 | 0.055 | 0.372 | 0.071 | 0.103 | 0.449 |
| HCM Control Delay      | 9.6   | 8.9   | 12.5  | 8.1   | 8.8   | 11.3  |
| HCM Lane LOS           | A     | A     | B     | A     | A     | B     |
| HCM 95th-tile Q        | 0.3   | 0.2   | 1.7   | 0.2   | 0.3   | 2.3   |

HCM 6th Roundabout  
1: Loop Rd & Crystal Valley Pkwy

2028 Background  
AM Peak - RA at #1

| Intersection                |       |       |       |       |       |       |
|-----------------------------|-------|-------|-------|-------|-------|-------|
| Intersection Delay, s/veh   | 5.3   |       |       |       |       |       |
| Intersection LOS            | A     |       |       |       |       |       |
| Approach                    | EB    |       | WB    |       | NB    | SB    |
| Entry Lanes                 | 2     |       | 2     |       | 1     | 1     |
| Conflicting Circle Lanes    | 2     |       | 2     |       | 2     | 2     |
| Adj Approach Flow, veh/h    | 375   |       | 543   |       | 322   | 4     |
| Demand Flow Rate, veh/h     | 382   |       | 554   |       | 329   | 4     |
| Vehicles Circulating, veh/h | 46    |       | 233   |       | 281   | 784   |
| Vehicles Exiting, veh/h     | 742   |       | 377   |       | 147   | 3     |
| Ped Vol Crossing Leg, #/h   | 0     |       | 0     |       | 0     | 0     |
| Ped Cap Adj                 | 1.000 |       | 1.000 |       | 1.000 | 1.000 |
| Approach Delay, s/veh       | 4.3   |       | 5.5   |       | 6.1   | 5.0   |
| Approach LOS                | A     |       | A     |       | A     | A     |
| Lane                        | Left  | Right | Left  | Right | Left  | Left  |
| Designated Moves            | LT    | R     | LT    | TR    | LTR   | LTR   |
| Assumed Moves               | LT    | R     | LT    | TR    | LTR   | LTR   |
| RT Channelized              |       |       |       |       |       |       |
| Lane Util                   | 0.733 | 0.267 | 0.469 | 0.531 | 1.000 | 1.000 |
| Follow-Up Headway, s        | 2.667 | 2.535 | 2.667 | 2.535 | 2.535 | 2.535 |
| Critical Headway, s         | 4.645 | 4.328 | 4.645 | 4.328 | 4.328 | 4.328 |
| Entry Flow, veh/h           | 280   | 102   | 260   | 294   | 329   | 4     |
| Cap Entry Lane, veh/h       | 1294  | 1366  | 1089  | 1165  | 1118  | 729   |
| Entry HV Adj Factor         | 0.980 | 0.980 | 0.982 | 0.979 | 0.979 | 0.990 |
| Flow Entry, veh/h           | 275   | 100   | 255   | 288   | 322   | 4     |
| Cap Entry, veh/h            | 1269  | 1339  | 1069  | 1140  | 1094  | 722   |
| V/C Ratio                   | 0.216 | 0.075 | 0.239 | 0.252 | 0.294 | 0.005 |
| Control Delay, s/veh        | 4.7   | 3.3   | 5.6   | 5.5   | 6.1   | 5.0   |
| LOS                         | A     | A     | A     | A     | A     | A     |
| 95th %tile Queue, veh       | 1     | 0     | 1     | 1     | 1     | 0     |

HCM 6th TWSC  
2: Idylwood St & Crystal Valley Pkwy

2028 Background  
AM Peak - RA at #1

| Intersection             |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |        |      |                                                                                     |
|--------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|--------|------|-------------------------------------------------------------------------------------|
| Int Delay, s/veh         | 2.2                                                                               |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |        |      |                                                                                     |
| Movement                 | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | WBR                                                                               | NBL                                                                               | NBT                                                                               | NBR                                                                               | SBL    | SBT  | SBR                                                                                 |
| Lane Configurations      |  |  |  |  |  |  |  |  |  |        |      |  |
| Traffic Vol, veh/h       | 6                                                                                 | 330                                                                               | 16                                                                                | 7                                                                                 | 450                                                                               | 3                                                                                 | 45                                                                                | 1                                                                                 | 20                                                                                | 0      | 0    | 22                                                                                  |
| Future Vol, veh/h        | 6                                                                                 | 330                                                                               | 16                                                                                | 7                                                                                 | 450                                                                               | 3                                                                                 | 45                                                                                | 1                                                                                 | 20                                                                                | 0      | 0    | 22                                                                                  |
| Conflicting Peds, #/hr   | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0      | 0    | 0                                                                                   |
| Sign Control             | Free                                                                              | Free                                                                              | Free                                                                              | Free                                                                              | Free                                                                              | Free                                                                              | Stop                                                                              | Stop                                                                              | Stop                                                                              | Stop   | Stop | Stop                                                                                |
| RT Channelized           | -                                                                                 | -                                                                                 | None                                                                              | -                                                                                 | -                                                                                 | None                                                                              | -                                                                                 | -                                                                                 | None                                                                              | -      | -    | None                                                                                |
| Storage Length           | 255                                                                               | -                                                                                 | 285                                                                               | 225                                                                               | -                                                                                 | 315                                                                               | -                                                                                 | -                                                                                 | -                                                                                 | -      | -    | 0                                                                                   |
| Veh in Median Storage, # | -                                                                                 | 0                                                                                 | -                                                                                 | -                                                                                 | 0                                                                                 | -                                                                                 | -                                                                                 | 0                                                                                 | -                                                                                 | -      | 0    | -                                                                                   |
| Grade, %                 | -                                                                                 | 0                                                                                 | -                                                                                 | -                                                                                 | 0                                                                                 | -                                                                                 | -                                                                                 | 0                                                                                 | -                                                                                 | -      | 0    | -                                                                                   |
| Peak Hour Factor         | 80                                                                                | 80                                                                                | 80                                                                                | 80                                                                                | 80                                                                                | 80                                                                                | 80                                                                                | 80                                                                                | 80                                                                                | 80     | 80   | 80                                                                                  |
| Heavy Vehicles, %        | 2                                                                                 | 2                                                                                 | 2                                                                                 | 2                                                                                 | 2                                                                                 | 2                                                                                 | 2                                                                                 | 2                                                                                 | 2                                                                                 | 2      | 2    | 2                                                                                   |
| Mvmt Flow                | 8                                                                                 | 413                                                                               | 20                                                                                | 9                                                                                 | 563                                                                               | 4                                                                                 | 56                                                                                | 1                                                                                 | 25                                                                                | 0      | 0    | 28                                                                                  |
| Major/Minor              | Major1                                                                            |                                                                                   |                                                                                   | Major2                                                                            |                                                                                   |                                                                                   | Minor1                                                                            |                                                                                   |                                                                                   | Minor2 |      |                                                                                     |
| Conflicting Flow All     | 567                                                                               | 0                                                                                 | 0                                                                                 | 433                                                                               | 0                                                                                 | 0                                                                                 | 1026                                                                              | 1014                                                                              | 413                                                                               | -      | -    | 563                                                                                 |
| Stage 1                  | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | 429                                                                               | 429                                                                               | -                                                                                 | -      | -    | -                                                                                   |
| Stage 2                  | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | 597                                                                               | 585                                                                               | -                                                                                 | -      | -    | -                                                                                   |
| Critical Hdwy            | 4.12                                                                              | -                                                                                 | -                                                                                 | 4.12                                                                              | -                                                                                 | -                                                                                 | 7.12                                                                              | 6.52                                                                              | 6.22                                                                              | -      | -    | 6.22                                                                                |
| Critical Hdwy Stg 1      | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | 6.12                                                                              | 5.52                                                                              | -                                                                                 | -      | -    | -                                                                                   |
| Critical Hdwy Stg 2      | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | 6.12                                                                              | 5.52                                                                              | -                                                                                 | -      | -    | -                                                                                   |
| Follow-up Hdwy           | 2.218                                                                             | -                                                                                 | -                                                                                 | 2.218                                                                             | -                                                                                 | -                                                                                 | 3.518                                                                             | 4.018                                                                             | 3.318                                                                             | -      | -    | 3.318                                                                               |
| Pot Cap-1 Maneuver       | 1005                                                                              | -                                                                                 | -                                                                                 | 1127                                                                              | -                                                                                 | -                                                                                 | 213                                                                               | 239                                                                               | 639                                                                               | 0      | 0    | 526                                                                                 |
| Stage 1                  | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | 604                                                                               | 584                                                                               | -                                                                                 | 0      | 0    | -                                                                                   |
| Stage 2                  | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | 490                                                                               | 498                                                                               | -                                                                                 | 0      | 0    | -                                                                                   |
| Platoon blocked, %       | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -      | -    | -                                                                                   |
| Mov Cap-1 Maneuver       | 1005                                                                              | -                                                                                 | -                                                                                 | 1127                                                                              | -                                                                                 | -                                                                                 | 199                                                                               | 235                                                                               | 639                                                                               | -      | -    | 526                                                                                 |
| Mov Cap-2 Maneuver       | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | 199                                                                               | 235                                                                               | -                                                                                 | -      | -    | -                                                                                   |
| Stage 1                  | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | 599                                                                               | 579                                                                               | -                                                                                 | -      | -    | -                                                                                   |
| Stage 2                  | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | 461                                                                               | 494                                                                               | -                                                                                 | -      | -    | -                                                                                   |
| Approach                 | EB                                                                                |                                                                                   |                                                                                   | WB                                                                                |                                                                                   |                                                                                   | NB                                                                                |                                                                                   |                                                                                   | SB     |      |                                                                                     |
| HCM Control Delay, s     | 0.1                                                                               |                                                                                   |                                                                                   | 0.1                                                                               |                                                                                   |                                                                                   | 24.2                                                                              |                                                                                   |                                                                                   | 12.2   |      |                                                                                     |
| HCM LOS                  |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   | C                                                                                 |                                                                                   |                                                                                   | B      |      |                                                                                     |
| Minor Lane/Major Mvmt    | NBLn1                                                                             | NBLn2                                                                             | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | WBR                                                                               | SBLn1                                                                             |        |      |                                                                                     |
| Capacity (veh/h)         | 199                                                                               | 591                                                                               | 1005                                                                              | -                                                                                 | -                                                                                 | 1127                                                                              | -                                                                                 | -                                                                                 | 526                                                                               |        |      |                                                                                     |
| HCM Lane V/C Ratio       | 0.283                                                                             | 0.044                                                                             | 0.007                                                                             | -                                                                                 | -                                                                                 | 0.008                                                                             | -                                                                                 | -                                                                                 | 0.052                                                                             |        |      |                                                                                     |
| HCM Control Delay (s)    | 30.1                                                                              | 11.4                                                                              | 8.6                                                                               | -                                                                                 | -                                                                                 | 8.2                                                                               | -                                                                                 | -                                                                                 | 12.2                                                                              |        |      |                                                                                     |
| HCM Lane LOS             | D                                                                                 | B                                                                                 | A                                                                                 | -                                                                                 | -                                                                                 | A                                                                                 | -                                                                                 | -                                                                                 | B                                                                                 |        |      |                                                                                     |
| HCM 95th %tile Q(veh)    | 1.1                                                                               | 0.1                                                                               | 0                                                                                 | -                                                                                 | -                                                                                 | 0                                                                                 | -                                                                                 | -                                                                                 | 0.2                                                                               |        |      |                                                                                     |

# HCM 6th AWSC

## 3: Lake Gulch Rd & Crystal Valley Pkwy

2028 Background  
AM Peak - RA at #1

| Intersection              |      |
|---------------------------|------|
| Intersection Delay, s/veh | 11.5 |
| Intersection LOS          | B    |

| Movement            | EBL                                                                               | EBR                                                                               | NBL                                                                               | NBT                                                                               | SBT                                                                               | SBR                                                                               |
|---------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|
| Lane Configurations |  |  |  |  |  |  |
| Traffic Vol, veh/h  | 290                                                                               | 20                                                                                | 25                                                                                | 65                                                                                | 30                                                                                | 150                                                                               |
| Future Vol, veh/h   | 290                                                                               | 20                                                                                | 25                                                                                | 65                                                                                | 30                                                                                | 150                                                                               |
| Peak Hour Factor    | 0.93                                                                              | 0.93                                                                              | 0.93                                                                              | 0.93                                                                              | 0.93                                                                              | 0.93                                                                              |
| Heavy Vehicles, %   | 2                                                                                 | 2                                                                                 | 2                                                                                 | 2                                                                                 | 2                                                                                 | 2                                                                                 |
| Mvmt Flow           | 312                                                                               | 22                                                                                | 27                                                                                | 70                                                                                | 32                                                                                | 161                                                                               |
| Number of Lanes     | 1                                                                                 | 1                                                                                 | 1                                                                                 | 1                                                                                 | 1                                                                                 | 1                                                                                 |

| Approach                   | EB   | NB  | SB |
|----------------------------|------|-----|----|
| Opposing Approach          |      | SB  | NB |
| Opposing Lanes             | 0    | 2   | 2  |
| Conflicting Approach Left  | SB   | EB  |    |
| Conflicting Lanes Left     | 2    | 2   | 0  |
| Conflicting Approach Right | NB   |     | EB |
| Conflicting Lanes Right    | 2    | 0   | 2  |
| HCM Control Delay          | 13.7 | 9.2 | 9  |
| HCM LOS                    | B    | A   | A  |

| Lane                   | NBLn1 | NBLn2 | EBLn1 | EBLn2 | SBLn1 | SBLn2 |
|------------------------|-------|-------|-------|-------|-------|-------|
| Vol Left, %            | 100%  | 0%    | 100%  | 0%    | 0%    | 0%    |
| Vol Thru, %            | 0%    | 100%  | 0%    | 0%    | 100%  | 0%    |
| Vol Right, %           | 0%    | 0%    | 0%    | 100%  | 0%    | 100%  |
| Sign Control           | Stop  | Stop  | Stop  | Stop  | Stop  | Stop  |
| Traffic Vol by Lane    | 25    | 65    | 290   | 20    | 30    | 150   |
| LT Vol                 | 25    | 0     | 290   | 0     | 0     | 0     |
| Through Vol            | 0     | 65    | 0     | 0     | 30    | 0     |
| RT Vol                 | 0     | 0     | 0     | 20    | 0     | 150   |
| Lane Flow Rate         | 27    | 70    | 312   | 22    | 32    | 161   |
| Geometry Grp           | 5     | 5     | 5     | 5     | 5     | 5     |
| Degree of Util (X)     | 0.047 | 0.111 | 0.498 | 0.027 | 0.051 | 0.221 |
| Departure Headway (Hd) | 6.235 | 5.729 | 5.745 | 4.541 | 5.64  | 4.932 |
| Convergence, Y/N       | Yes   | Yes   | Yes   | Yes   | Yes   | Yes   |
| Cap                    | 572   | 622   | 624   | 782   | 633   | 724   |
| Service Time           | 4.004 | 3.498 | 3.512 | 2.308 | 3.396 | 2.688 |
| HCM Lane V/C Ratio     | 0.047 | 0.113 | 0.5   | 0.028 | 0.051 | 0.222 |
| HCM Control Delay      | 9.3   | 9.2   | 14.1  | 7.4   | 8.7   | 9.1   |
| HCM Lane LOS           | A     | A     | B     | A     | A     | A     |
| HCM 95th-tile Q        | 0.1   | 0.4   | 2.8   | 0.1   | 0.2   | 0.8   |

| Intersection                |       |       |       |       |       |       |
|-----------------------------|-------|-------|-------|-------|-------|-------|
| Intersection Delay, s/veh   | 5.6   |       |       |       |       |       |
| Intersection LOS            | A     |       |       |       |       |       |
| Approach                    | EB    |       | WB    |       | NB    |       |
| Entry Lanes                 | 2     |       | 2     |       | 1     |       |
| Conflicting Circle Lanes    | 2     |       | 2     |       | 2     |       |
| Adj Approach Flow, veh/h    | 694   |       | 449   |       | 218   |       |
| Demand Flow Rate, veh/h     | 708   |       | 458   |       | 222   |       |
| Vehicles Circulating, veh/h | 111   |       | 165   |       | 474   |       |
| Vehicles Exiting, veh/h     | 517   |       | 531   |       | 345   |       |
| Ped Vol Crossing Leg, #/h   | 0     |       | 0     |       | 0     |       |
| Ped Cap Adj                 | 1.000 |       | 1.000 |       | 1.000 |       |
| Approach Delay, s/veh       | 6.0   |       | 4.7   |       | 6.2   |       |
| Approach LOS                | A     |       | A     |       | A     |       |
| Lane                        | Left  | Right | Left  | Right | Left  | Left  |
| Designated Moves            | LT    | R     | LT    | TR    | LTR   | LTR   |
| Assumed Moves               | LT    | R     | LT    | TR    | LTR   | LTR   |
| RT Channelized              |       |       |       |       |       |       |
| Lane Util                   | 0.662 | 0.338 | 0.469 | 0.531 | 1.000 | 1.000 |
| Follow-Up Headway, s        | 2.667 | 2.535 | 2.667 | 2.535 | 2.535 | 2.535 |
| Critical Headway, s         | 4.645 | 4.328 | 4.645 | 4.328 | 4.328 | 4.328 |
| Entry Flow, veh/h           | 469   | 239   | 215   | 243   | 222   | 19    |
| Cap Entry Lane, veh/h       | 1219  | 1292  | 1160  | 1234  | 949   | 846   |
| Entry HV Adj Factor         | 0.981 | 0.979 | 0.982 | 0.980 | 0.982 | 0.999 |
| Flow Entry, veh/h           | 460   | 234   | 211   | 238   | 218   | 19    |
| Cap Entry, veh/h            | 1195  | 1265  | 1139  | 1209  | 932   | 845   |
| V/C Ratio                   | 0.385 | 0.185 | 0.185 | 0.197 | 0.234 | 0.022 |
| Control Delay, s/veh        | 6.8   | 4.4   | 4.8   | 4.7   | 6.2   | 4.5   |
| LOS                         | A     | A     | A     | A     | A     | A     |
| 95th %tile Queue, veh       | 2     | 1     | 1     | 1     | 1     | 0     |

HCM 6th TWSC  
2: Idylwood St & Crystal Valley Pkwy

2028 Background  
PM Peak - RA at #1

| Intersection             |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |        |      |                                                                                     |
|--------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|--------|------|-------------------------------------------------------------------------------------|
| Int Delay, s/veh         | 1.3                                                                               |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |        |      |                                                                                     |
| Movement                 | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | WBR                                                                               | NBL                                                                               | NBT                                                                               | NBR                                                                               | SBL    | SBT  | SBR                                                                                 |
| Lane Configurations      |  |  |  |  |  |  |  |  |  |        |      |  |
| Traffic Vol, veh/h       | 18                                                                                | 420                                                                               | 42                                                                                | 18                                                                                | 375                                                                               | 8                                                                                 | 23                                                                                | 2                                                                                 | 10                                                                                | 0      | 0    | 13                                                                                  |
| Future Vol, veh/h        | 18                                                                                | 420                                                                               | 42                                                                                | 18                                                                                | 375                                                                               | 8                                                                                 | 23                                                                                | 2                                                                                 | 10                                                                                | 0      | 0    | 13                                                                                  |
| Conflicting Peds, #/hr   | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0      | 0    | 0                                                                                   |
| Sign Control             | Free                                                                              | Free                                                                              | Free                                                                              | Free                                                                              | Free                                                                              | Free                                                                              | Stop                                                                              | Stop                                                                              | Stop                                                                              | Stop   | Stop | Stop                                                                                |
| RT Channelized           | -                                                                                 | -                                                                                 | None                                                                              | -                                                                                 | -                                                                                 | None                                                                              | -                                                                                 | -                                                                                 | None                                                                              | -      | -    | None                                                                                |
| Storage Length           | 255                                                                               | -                                                                                 | 285                                                                               | 225                                                                               | -                                                                                 | 315                                                                               | -                                                                                 | -                                                                                 | -                                                                                 | -      | -    | 0                                                                                   |
| Veh in Median Storage, # | -                                                                                 | 0                                                                                 | -                                                                                 | -                                                                                 | 0                                                                                 | -                                                                                 | -                                                                                 | 0                                                                                 | -                                                                                 | -      | 0    | -                                                                                   |
| Grade, %                 | -                                                                                 | 0                                                                                 | -                                                                                 | -                                                                                 | 0                                                                                 | -                                                                                 | -                                                                                 | 0                                                                                 | -                                                                                 | -      | 0    | -                                                                                   |
| Peak Hour Factor         | 83                                                                                | 83                                                                                | 83                                                                                | 83                                                                                | 83                                                                                | 83                                                                                | 83                                                                                | 83                                                                                | 83                                                                                | 83     | 83   | 83                                                                                  |
| Heavy Vehicles, %        | 2                                                                                 | 2                                                                                 | 2                                                                                 | 2                                                                                 | 2                                                                                 | 2                                                                                 | 2                                                                                 | 2                                                                                 | 2                                                                                 | 2      | 2    | 2                                                                                   |
| Mvmt Flow                | 22                                                                                | 506                                                                               | 51                                                                                | 22                                                                                | 452                                                                               | 10                                                                                | 28                                                                                | 2                                                                                 | 12                                                                                | 0      | 0    | 16                                                                                  |
|                          |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |        |      |                                                                                     |
| Major/Minor              | Major1                                                                            |                                                                                   |                                                                                   | Major2                                                                            |                                                                                   |                                                                                   | Minor1                                                                            |                                                                                   |                                                                                   | Minor2 |      |                                                                                     |
| Conflicting Flow All     | 462                                                                               | 0                                                                                 | 0                                                                                 | 557                                                                               | 0                                                                                 | 0                                                                                 | 1059                                                                              | 1056                                                                              | 506                                                                               | -      | -    | 452                                                                                 |
| Stage 1                  | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | 550                                                                               | 550                                                                               | -                                                                                 | -      | -    | -                                                                                   |
| Stage 2                  | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | 509                                                                               | 506                                                                               | -                                                                                 | -      | -    | -                                                                                   |
| Critical Hdwy            | 4.12                                                                              | -                                                                                 | -                                                                                 | 4.12                                                                              | -                                                                                 | -                                                                                 | 7.12                                                                              | 6.52                                                                              | 6.22                                                                              | -      | -    | 6.22                                                                                |
| Critical Hdwy Stg 1      | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | 6.12                                                                              | 5.52                                                                              | -                                                                                 | -      | -    | -                                                                                   |
| Critical Hdwy Stg 2      | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | 6.12                                                                              | 5.52                                                                              | -                                                                                 | -      | -    | -                                                                                   |
| Follow-up Hdwy           | 2.218                                                                             | -                                                                                 | -                                                                                 | 2.218                                                                             | -                                                                                 | -                                                                                 | 3.518                                                                             | 4.018                                                                             | 3.318                                                                             | -      | -    | 3.318                                                                               |
| Pot Cap-1 Maneuver       | 1099                                                                              | -                                                                                 | -                                                                                 | 1014                                                                              | -                                                                                 | -                                                                                 | 202                                                                               | 225                                                                               | 566                                                                               | 0      | 0    | 608                                                                                 |
| Stage 1                  | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | 519                                                                               | 516                                                                               | -                                                                                 | 0      | 0    | -                                                                                   |
| Stage 2                  | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | 547                                                                               | 540                                                                               | -                                                                                 | 0      | 0    | -                                                                                   |
| Platoon blocked, %       |                                                                                   | -                                                                                 | -                                                                                 |                                                                                   | -                                                                                 | -                                                                                 |                                                                                   |                                                                                   |                                                                                   |        |      |                                                                                     |
| Mov Cap-1 Maneuver       | 1099                                                                              | -                                                                                 | -                                                                                 | 1014                                                                              | -                                                                                 | -                                                                                 | 191                                                                               | 216                                                                               | 566                                                                               | -      | -    | 608                                                                                 |
| Mov Cap-2 Maneuver       | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | 191                                                                               | 216                                                                               | -                                                                                 | -      | -    | -                                                                                   |
| Stage 1                  | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | 509                                                                               | 506                                                                               | -                                                                                 | -      | -    | -                                                                                   |
| Stage 2                  | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | 521                                                                               | 528                                                                               | -                                                                                 | -      | -    | -                                                                                   |
|                          |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |        |      |                                                                                     |
| Approach                 | EB                                                                                |                                                                                   |                                                                                   | WB                                                                                |                                                                                   |                                                                                   | NB                                                                                |                                                                                   |                                                                                   | SB     |      |                                                                                     |
| HCM Control Delay, s     | 0.3                                                                               |                                                                                   |                                                                                   | 0.4                                                                               |                                                                                   |                                                                                   | 22.3                                                                              |                                                                                   |                                                                                   | 11.1   |      |                                                                                     |
| HCM LOS                  |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   | C                                                                                 |                                                                                   |                                                                                   | B      |      |                                                                                     |
|                          |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |        |      |                                                                                     |
| Minor Lane/Major Mvmt    | NBLn1                                                                             | NBLn2                                                                             | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | WBR                                                                               | SBLn1                                                                             |        |      |                                                                                     |
| Capacity (veh/h)         | 191                                                                               | 446                                                                               | 1099                                                                              | -                                                                                 | -                                                                                 | 1014                                                                              | -                                                                                 | -                                                                                 | 608                                                                               |        |      |                                                                                     |
| HCM Lane V/C Ratio       | 0.145                                                                             | 0.032                                                                             | 0.02                                                                              | -                                                                                 | -                                                                                 | 0.021                                                                             | -                                                                                 | -                                                                                 | 0.026                                                                             |        |      |                                                                                     |
| HCM Control Delay (s)    | 27                                                                                | 13.3                                                                              | 8.3                                                                               | -                                                                                 | -                                                                                 | 8.6                                                                               | -                                                                                 | -                                                                                 | 11.1                                                                              |        |      |                                                                                     |
| HCM Lane LOS             | D                                                                                 | B                                                                                 | A                                                                                 | -                                                                                 | -                                                                                 | A                                                                                 | -                                                                                 | -                                                                                 | B                                                                                 |        |      |                                                                                     |
| HCM 95th %tile Q(veh)    | 0.5                                                                               | 0.1                                                                               | 0.1                                                                               | -                                                                                 | -                                                                                 | 0.1                                                                               | -                                                                                 | -                                                                                 | 0.1                                                                               |        |      |                                                                                     |

HCM 6th AWSC  
3: Lake Gulch Rd & Crystal Valley Pkwy

2028 Background  
PM Peak - RA at #1

| Intersection              |    |
|---------------------------|----|
| Intersection Delay, s/veh | 11 |
| Intersection LOS          | B  |

| Movement            | EBL                                                                               | EBR                                                                               | NBL                                                                               | NBT                                                                               | SBT                                                                               | SBR                                                                               |
|---------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|
| Lane Configurations |  |  |  |  |  |  |
| Traffic Vol, veh/h  | 190                                                                               | 45                                                                                | 40                                                                                | 30                                                                                | 60                                                                                | 300                                                                               |
| Future Vol, veh/h   | 190                                                                               | 45                                                                                | 40                                                                                | 30                                                                                | 60                                                                                | 300                                                                               |
| Peak Hour Factor    | 0.88                                                                              | 0.88                                                                              | 0.88                                                                              | 0.88                                                                              | 0.88                                                                              | 0.88                                                                              |
| Heavy Vehicles, %   | 2                                                                                 | 2                                                                                 | 2                                                                                 | 2                                                                                 | 2                                                                                 | 2                                                                                 |
| Mvmt Flow           | 216                                                                               | 51                                                                                | 45                                                                                | 34                                                                                | 68                                                                                | 341                                                                               |
| Number of Lanes     | 1                                                                                 | 1                                                                                 | 1                                                                                 | 1                                                                                 | 1                                                                                 | 1                                                                                 |

| Approach                   | EB   | NB  | SB   |
|----------------------------|------|-----|------|
| Opposing Approach          |      | SB  | NB   |
| Opposing Lanes             | 0    | 2   | 2    |
| Conflicting Approach Left  | SB   | EB  |      |
| Conflicting Lanes Left     | 2    | 2   | 0    |
| Conflicting Approach Right | NB   |     | EB   |
| Conflicting Lanes Right    | 2    | 0   | 2    |
| HCM Control Delay          | 11.7 | 9.3 | 10.9 |
| HCM LOS                    | B    | A   | B    |

| Lane                   | NBLn1 | NBLn2 | EBLn1 | EBLn2 | SBLn1 | SBLn2 |
|------------------------|-------|-------|-------|-------|-------|-------|
| Vol Left, %            | 100%  | 0%    | 100%  | 0%    | 0%    | 0%    |
| Vol Thru, %            | 0%    | 100%  | 0%    | 0%    | 100%  | 0%    |
| Vol Right, %           | 0%    | 0%    | 0%    | 100%  | 0%    | 100%  |
| Sign Control           | Stop  | Stop  | Stop  | Stop  | Stop  | Stop  |
| Traffic Vol by Lane    | 40    | 30    | 190   | 45    | 60    | 300   |
| LT Vol                 | 40    | 0     | 190   | 0     | 0     | 0     |
| Through Vol            | 0     | 30    | 0     | 0     | 60    | 0     |
| RT Vol                 | 0     | 0     | 0     | 45    | 0     | 300   |
| Lane Flow Rate         | 45    | 34    | 216   | 51    | 68    | 341   |
| Geometry Grp           | 5     | 5     | 5     | 5     | 5     | 5     |
| Degree of Util (X)     | 0.079 | 0.054 | 0.369 | 0.07  | 0.103 | 0.447 |
| Departure Headway (Hd) | 6.243 | 5.737 | 6.152 | 4.946 | 5.425 | 4.719 |
| Convergence, Y/N       | Yes   | Yes   | Yes   | Yes   | Yes   | Yes   |
| Cap                    | 570   | 619   | 581   | 716   | 658   | 760   |
| Service Time           | 4.03  | 3.523 | 3.94  | 2.733 | 3.179 | 2.473 |
| HCM Lane V/C Ratio     | 0.079 | 0.055 | 0.372 | 0.071 | 0.103 | 0.449 |
| HCM Control Delay      | 9.6   | 8.9   | 12.5  | 8.1   | 8.8   | 11.3  |
| HCM Lane LOS           | A     | A     | B     | A     | A     | B     |
| HCM 95th-tile Q        | 0.3   | 0.2   | 1.7   | 0.2   | 0.3   | 2.3   |

HCM 6th TWSC  
1: Loop Rd & Crystal Valley Pkwy

2028 Total  
AM Peak

| Intersection             |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
|--------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|
| Int Delay, s/veh         | 7.8                                                                               |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Movement                 | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | WBR                                                                               | NBL                                                                               | NBT                                                                               | NBR                                                                               | SBL                                                                               | SBT                                                                               | SBR                                                                               |
| Lane Configurations      |  |  |  |  |  |  |  |  |  |  |  |  |
| Traffic Vol, veh/h       | 8                                                                                 | 267                                                                               | 95                                                                                | 42                                                                                | 493                                                                               | 1                                                                                 | 215                                                                               | 1                                                                                 | 91                                                                                | 18                                                                                | 3                                                                                 | 20                                                                                |
| Future Vol, veh/h        | 8                                                                                 | 267                                                                               | 95                                                                                | 42                                                                                | 493                                                                               | 1                                                                                 | 215                                                                               | 1                                                                                 | 91                                                                                | 18                                                                                | 3                                                                                 | 20                                                                                |
| Conflicting Peds, #/hr   | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 |
| Sign Control             | Free                                                                              | Free                                                                              | Free                                                                              | Free                                                                              | Free                                                                              | Free                                                                              | Stop                                                                              | Stop                                                                              | Stop                                                                              | Stop                                                                              | Stop                                                                              | Stop                                                                              |
| RT Channelized           | -                                                                                 | -                                                                                 | None                                                                              | -                                                                                 | -                                                                                 | None                                                                              | -                                                                                 | -                                                                                 | None                                                                              | -                                                                                 | -                                                                                 | None                                                                              |
| Storage Length           | 280                                                                               | -                                                                                 | 280                                                                               | 410                                                                               | -                                                                                 | -                                                                                 | 315                                                                               | -                                                                                 | 0                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 |
| Veh in Median Storage, # | -                                                                                 | 0                                                                                 | -                                                                                 | -                                                                                 | 0                                                                                 | -                                                                                 | -                                                                                 | 0                                                                                 | -                                                                                 | -                                                                                 | 0                                                                                 | -                                                                                 |
| Grade, %                 | -                                                                                 | 0                                                                                 | -                                                                                 | -                                                                                 | 0                                                                                 | -                                                                                 | -                                                                                 | 0                                                                                 | -                                                                                 | -                                                                                 | 0                                                                                 | -                                                                                 |
| Peak Hour Factor         | 95                                                                                | 95                                                                                | 95                                                                                | 95                                                                                | 95                                                                                | 95                                                                                | 95                                                                                | 95                                                                                | 95                                                                                | 95                                                                                | 95                                                                                | 95                                                                                |
| Heavy Vehicles, %        | 2                                                                                 | 2                                                                                 | 2                                                                                 | 2                                                                                 | 2                                                                                 | 2                                                                                 | 2                                                                                 | 2                                                                                 | 2                                                                                 | 2                                                                                 | 2                                                                                 | 2                                                                                 |
| Mvmt Flow                | 8                                                                                 | 281                                                                               | 100                                                                               | 44                                                                                | 519                                                                               | 1                                                                                 | 226                                                                               | 1                                                                                 | 96                                                                                | 19                                                                                | 3                                                                                 | 21                                                                                |
| Major/Minor              | Major1                                                                            |                                                                                   |                                                                                   | Major2                                                                            |                                                                                   |                                                                                   | Minor1                                                                            |                                                                                   |                                                                                   | Minor2                                                                            |                                                                                   |                                                                                   |
| Conflicting Flow All     | 520                                                                               | 0                                                                                 | 0                                                                                 | 381                                                                               | 0                                                                                 | 0                                                                                 | 646                                                                               | 905                                                                               | 141                                                                               | 765                                                                               | 1005                                                                              | 260                                                                               |
| Stage 1                  | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | 297                                                                               | 297                                                                               | -                                                                                 | 608                                                                               | 608                                                                               | -                                                                                 |
| Stage 2                  | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | 349                                                                               | 608                                                                               | -                                                                                 | 157                                                                               | 397                                                                               | -                                                                                 |
| Critical Hdwy            | 4.14                                                                              | -                                                                                 | -                                                                                 | 4.14                                                                              | -                                                                                 | -                                                                                 | 7.54                                                                              | 6.54                                                                              | 6.94                                                                              | 7.54                                                                              | 6.54                                                                              | 6.94                                                                              |
| Critical Hdwy Stg 1      | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | 6.54                                                                              | 5.54                                                                              | -                                                                                 | 6.54                                                                              | 5.54                                                                              | -                                                                                 |
| Critical Hdwy Stg 2      | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | 6.54                                                                              | 5.54                                                                              | -                                                                                 | 6.54                                                                              | 5.54                                                                              | -                                                                                 |
| Follow-up Hdwy           | 2.22                                                                              | -                                                                                 | -                                                                                 | 2.22                                                                              | -                                                                                 | -                                                                                 | 3.52                                                                              | 4.02                                                                              | 3.32                                                                              | 3.52                                                                              | 4.02                                                                              | 3.32                                                                              |
| Pot Cap-1 Maneuver       | 1042                                                                              | -                                                                                 | -                                                                                 | 1174                                                                              | -                                                                                 | -                                                                                 | 357                                                                               | 275                                                                               | 881                                                                               | 293                                                                               | 240                                                                               | 739                                                                               |
| Stage 1                  | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | 687                                                                               | 666                                                                               | -                                                                                 | 450                                                                               | 484                                                                               | -                                                                                 |
| Stage 2                  | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | 640                                                                               | 484                                                                               | -                                                                                 | 829                                                                               | 602                                                                               | -                                                                                 |
| Platoon blocked, %       | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 |
| Mov Cap-1 Maneuver       | 1042                                                                              | -                                                                                 | -                                                                                 | 1174                                                                              | -                                                                                 | -                                                                                 | 331                                                                               | 263                                                                               | 881                                                                               | 251                                                                               | 229                                                                               | 739                                                                               |
| Mov Cap-2 Maneuver       | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | 331                                                                               | 263                                                                               | -                                                                                 | 251                                                                               | 229                                                                               | -                                                                                 |
| Stage 1                  | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | 682                                                                               | 661                                                                               | -                                                                                 | 446                                                                               | 466                                                                               | -                                                                                 |
| Stage 2                  | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | 594                                                                               | 466                                                                               | -                                                                                 | 732                                                                               | 597                                                                               | -                                                                                 |
| Approach                 | EB                                                                                |                                                                                   |                                                                                   | WB                                                                                |                                                                                   |                                                                                   | NB                                                                                |                                                                                   |                                                                                   | SB                                                                                |                                                                                   |                                                                                   |
| HCM Control Delay, s     | 0.2                                                                               |                                                                                   |                                                                                   | 0.6                                                                               |                                                                                   |                                                                                   | 28.4                                                                              |                                                                                   |                                                                                   | 16.1                                                                              |                                                                                   |                                                                                   |
| HCM LOS                  |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   | D                                                                                 |                                                                                   |                                                                                   | C                                                                                 |                                                                                   |                                                                                   |
| Minor Lane/Major Mvmt    | NBLn1                                                                             | NBLn2                                                                             | NBLn3                                                                             | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | WBR                                                                               | SBLn1                                                                             |                                                                                   |                                                                                   |
| Capacity (veh/h)         | 331                                                                               | 263                                                                               | 881                                                                               | 1042                                                                              | -                                                                                 | -                                                                                 | 1174                                                                              | -                                                                                 | -                                                                                 | 366                                                                               |                                                                                   |                                                                                   |
| HCM Lane V/C Ratio       | 0.684                                                                             | 0.004                                                                             | 0.109                                                                             | 0.008                                                                             | -                                                                                 | -                                                                                 | 0.038                                                                             | -                                                                                 | -                                                                                 | 0.118                                                                             |                                                                                   |                                                                                   |
| HCM Control Delay (s)    | 36.4                                                                              | 18.7                                                                              | 9.6                                                                               | 8.5                                                                               | -                                                                                 | -                                                                                 | 8.2                                                                               | -                                                                                 | -                                                                                 | 16.1                                                                              |                                                                                   |                                                                                   |
| HCM Lane LOS             | E                                                                                 | C                                                                                 | A                                                                                 | A                                                                                 | -                                                                                 | -                                                                                 | A                                                                                 | -                                                                                 | -                                                                                 | C                                                                                 |                                                                                   |                                                                                   |
| HCM 95th %tile Q(veh)    | 4.8                                                                               | 0                                                                                 | 0.4                                                                               | 0                                                                                 | -                                                                                 | -                                                                                 | 0.1                                                                               | -                                                                                 | -                                                                                 | 0.4                                                                               |                                                                                   |                                                                                   |

HCM 6th TWSC  
2: Idylwood St & Crystal Valley Pkwy

2028 Total  
AM Peak

| Intersection             |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |        |      |                                                                                     |
|--------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|------------------------------------------------------------------------------------|--------|------|-------------------------------------------------------------------------------------|
| Int Delay, s/veh         | 2.7                                                                               |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |        |      |                                                                                     |
| Movement                 | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | WBR                                                                               | NBL                                                                               | NBT                                                                               | NBR                                                                                | SBL    | SBT  | SBR                                                                                 |
| Lane Configurations      |  |  |  |  |  |  |  |  |  |        |      |  |
| Traffic Vol, veh/h       | 14                                                                                | 347                                                                               | 16                                                                                | 7                                                                                 | 450                                                                               | 9                                                                                 | 45                                                                                | 1                                                                                 | 20                                                                                 | 0      | 0    | 42                                                                                  |
| Future Vol, veh/h        | 14                                                                                | 347                                                                               | 16                                                                                | 7                                                                                 | 450                                                                               | 9                                                                                 | 45                                                                                | 1                                                                                 | 20                                                                                 | 0      | 0    | 42                                                                                  |
| Conflicting Peds, #/hr   | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                  | 0      | 0    | 0                                                                                   |
| Sign Control             | Free                                                                              | Free                                                                              | Free                                                                              | Free                                                                              | Free                                                                              | Free                                                                              | Stop                                                                              | Stop                                                                              | Stop                                                                               | Stop   | Stop | Stop                                                                                |
| RT Channelized           | -                                                                                 | -                                                                                 | None                                                                              | -                                                                                 | -                                                                                 | None                                                                              | -                                                                                 | -                                                                                 | None                                                                               | -      | -    | None                                                                                |
| Storage Length           | 255                                                                               | -                                                                                 | 285                                                                               | 225                                                                               | -                                                                                 | 315                                                                               | -                                                                                 | -                                                                                 | -                                                                                  | -      | -    | 0                                                                                   |
| Veh in Median Storage, # | -                                                                                 | 0                                                                                 | -                                                                                 | -                                                                                 | 0                                                                                 | -                                                                                 | -                                                                                 | 0                                                                                 | -                                                                                  | -      | 0    | -                                                                                   |
| Grade, %                 | -                                                                                 | 0                                                                                 | -                                                                                 | -                                                                                 | 0                                                                                 | -                                                                                 | -                                                                                 | 0                                                                                 | -                                                                                  | -      | 0    | -                                                                                   |
| Peak Hour Factor         | 80                                                                                | 80                                                                                | 80                                                                                | 80                                                                                | 80                                                                                | 80                                                                                | 80                                                                                | 80                                                                                | 80                                                                                 | 80     | 80   | 80                                                                                  |
| Heavy Vehicles, %        | 2                                                                                 | 2                                                                                 | 2                                                                                 | 2                                                                                 | 2                                                                                 | 2                                                                                 | 2                                                                                 | 2                                                                                 | 2                                                                                  | 2      | 2    | 2                                                                                   |
| Mvmt Flow                | 18                                                                                | 434                                                                               | 20                                                                                | 9                                                                                 | 563                                                                               | 11                                                                                | 56                                                                                | 1                                                                                 | 25                                                                                 | 0      | 0    | 53                                                                                  |
| Major/Minor              | Major1                                                                            |                                                                                   |                                                                                   | Major2                                                                            |                                                                                   |                                                                                   | Minor1                                                                            |                                                                                   |                                                                                    | Minor2 |      |                                                                                     |
| Conflicting Flow All     | 574                                                                               | 0                                                                                 | 0                                                                                 | 454                                                                               | 0                                                                                 | 0                                                                                 | 1083                                                                              | 1062                                                                              | 434                                                                                | -      | -    | 563                                                                                 |
| Stage 1                  | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | 470                                                                               | 470                                                                               | -                                                                                  | -      | -    | -                                                                                   |
| Stage 2                  | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | 613                                                                               | 592                                                                               | -                                                                                  | -      | -    | -                                                                                   |
| Critical Hdwy            | 4.12                                                                              | -                                                                                 | -                                                                                 | 4.12                                                                              | -                                                                                 | -                                                                                 | 7.12                                                                              | 6.52                                                                              | 6.22                                                                               | -      | -    | 6.22                                                                                |
| Critical Hdwy Stg 1      | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | 6.12                                                                              | 5.52                                                                              | -                                                                                  | -      | -    | -                                                                                   |
| Critical Hdwy Stg 2      | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | 6.12                                                                              | 5.52                                                                              | -                                                                                  | -      | -    | -                                                                                   |
| Follow-up Hdwy           | 2.218                                                                             | -                                                                                 | -                                                                                 | 2.218                                                                             | -                                                                                 | -                                                                                 | 3.518                                                                             | 4.018                                                                             | 3.318                                                                              | -      | -    | 3.318                                                                               |
| Pot Cap-1 Maneuver       | 999                                                                               | -                                                                                 | -                                                                                 | 1107                                                                              | -                                                                                 | -                                                                                 | 195                                                                               | 223                                                                               | 622                                                                                | 0      | 0    | 526                                                                                 |
| Stage 1                  | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | 574                                                                               | 560                                                                               | -                                                                                  | 0      | 0    | -                                                                                   |
| Stage 2                  | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | 480                                                                               | 494                                                                               | -                                                                                  | 0      | 0    | -                                                                                   |
| Platoon blocked, %       | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                  | -      | -    | -                                                                                   |
| Mov Cap-1 Maneuver       | 999                                                                               | -                                                                                 | -                                                                                 | 1107                                                                              | -                                                                                 | -                                                                                 | 172                                                                               | 217                                                                               | 622                                                                                | -      | -    | 526                                                                                 |
| Mov Cap-2 Maneuver       | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | 172                                                                               | 217                                                                               | -                                                                                  | -      | -    | -                                                                                   |
| Stage 1                  | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | 564                                                                               | 550                                                                               | -                                                                                  | -      | -    | -                                                                                   |
| Stage 2                  | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | 429                                                                               | 490                                                                               | -                                                                                  | -      | -    | -                                                                                   |
| Approach                 | EB                                                                                |                                                                                   |                                                                                   | WB                                                                                |                                                                                   |                                                                                   | NB                                                                                |                                                                                   |                                                                                    | SB     |      |                                                                                     |
| HCM Control Delay, s     | 0.3                                                                               |                                                                                   |                                                                                   | 0.1                                                                               |                                                                                   |                                                                                   | 28.1                                                                              |                                                                                   |                                                                                    | 12.6   |      |                                                                                     |
| HCM LOS                  |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   | D                                                                                 |                                                                                   |                                                                                    | B      |      |                                                                                     |
| Minor Lane/Major Mvmt    | NBLn1                                                                             | NBLn2                                                                             | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | WBR                                                                               | SBLn1                                                                              |        |      |                                                                                     |
| Capacity (veh/h)         | 172                                                                               | 571                                                                               | 999                                                                               | -                                                                                 | -                                                                                 | 1107                                                                              | -                                                                                 | -                                                                                 | 526                                                                                |        |      |                                                                                     |
| HCM Lane V/C Ratio       | 0.327                                                                             | 0.046                                                                             | 0.018                                                                             | -                                                                                 | -                                                                                 | 0.008                                                                             | -                                                                                 | -                                                                                 | 0.1                                                                                |        |      |                                                                                     |
| HCM Control Delay (s)    | 35.8                                                                              | 11.6                                                                              | 8.7                                                                               | -                                                                                 | -                                                                                 | 8.3                                                                               | -                                                                                 | -                                                                                 | 12.6                                                                               |        |      |                                                                                     |
| HCM Lane LOS             | E                                                                                 | B                                                                                 | A                                                                                 | -                                                                                 | -                                                                                 | A                                                                                 | -                                                                                 | -                                                                                 | B                                                                                  |        |      |                                                                                     |
| HCM 95th %tile Q(veh)    | 1.3                                                                               | 0.1                                                                               | 0.1                                                                               | -                                                                                 | -                                                                                 | 0                                                                                 | -                                                                                 | -                                                                                 | 0.3                                                                                |        |      |                                                                                     |

HCM 6th AWSC  
3: Lake Gulch Rd & Crystal Valley Pkwy

2028 Total  
AM Peak

| Intersection              |    |
|---------------------------|----|
| Intersection Delay, s/veh | 12 |
| Intersection LOS          | B  |

| Movement            | EBL                                                                               | EBR                                                                               | NBL                                                                               | NBT                                                                               | SBT                                                                               | SBR                                                                               |
|---------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|
| Lane Configurations |  |  |  |  |  |  |
| Traffic Vol, veh/h  | 307                                                                               | 20                                                                                | 25                                                                                | 65                                                                                | 30                                                                                | 156                                                                               |
| Future Vol, veh/h   | 307                                                                               | 20                                                                                | 25                                                                                | 65                                                                                | 30                                                                                | 156                                                                               |
| Peak Hour Factor    | 0.93                                                                              | 0.93                                                                              | 0.93                                                                              | 0.93                                                                              | 0.93                                                                              | 0.93                                                                              |
| Heavy Vehicles, %   | 2                                                                                 | 2                                                                                 | 2                                                                                 | 2                                                                                 | 2                                                                                 | 2                                                                                 |
| Mvmt Flow           | 330                                                                               | 22                                                                                | 27                                                                                | 70                                                                                | 32                                                                                | 168                                                                               |
| Number of Lanes     | 1                                                                                 | 1                                                                                 | 1                                                                                 | 1                                                                                 | 1                                                                                 | 1                                                                                 |

| Approach                   | EB   | NB  | SB  |
|----------------------------|------|-----|-----|
| Opposing Approach          |      | SB  | NB  |
| Opposing Lanes             | 0    | 2   | 2   |
| Conflicting Approach Left  | SB   | EB  |     |
| Conflicting Lanes Left     | 2    | 2   | 0   |
| Conflicting Approach Right | NB   |     | EB  |
| Conflicting Lanes Right    | 2    | 0   | 2   |
| HCM Control Delay          | 14.4 | 9.3 | 9.2 |
| HCM LOS                    | B    | A   | A   |

| Lane                   | NBLn1 | NBLn2 | EBLn1 | EBLn2 | SBLn1 | SBLn2 |
|------------------------|-------|-------|-------|-------|-------|-------|
| Vol Left, %            | 100%  | 0%    | 100%  | 0%    | 0%    | 0%    |
| Vol Thru, %            | 0%    | 100%  | 0%    | 0%    | 100%  | 0%    |
| Vol Right, %           | 0%    | 0%    | 0%    | 100%  | 0%    | 100%  |
| Sign Control           | Stop  | Stop  | Stop  | Stop  | Stop  | Stop  |
| Traffic Vol by Lane    | 25    | 65    | 307   | 20    | 30    | 156   |
| LT Vol                 | 25    | 0     | 307   | 0     | 0     | 0     |
| Through Vol            | 0     | 65    | 0     | 0     | 30    | 0     |
| RT Vol                 | 0     | 0     | 0     | 20    | 0     | 156   |
| Lane Flow Rate         | 27    | 70    | 330   | 22    | 32    | 168   |
| Geometry Grp           | 5     | 5     | 5     | 5     | 5     | 5     |
| Degree of Util (X)     | 0.047 | 0.113 | 0.529 | 0.027 | 0.051 | 0.233 |
| Departure Headway (Hd) | 6.307 | 5.8   | 5.764 | 4.56  | 5.699 | 4.991 |
| Convergence, Y/N       | Yes   | Yes   | Yes   | Yes   | Yes   | Yes   |
| Cap                    | 565   | 614   | 621   | 777   | 625   | 715   |
| Service Time           | 4.082 | 3.575 | 3.536 | 2.332 | 3.461 | 2.753 |
| HCM Lane V/C Ratio     | 0.048 | 0.114 | 0.531 | 0.028 | 0.051 | 0.235 |
| HCM Control Delay      | 9.4   | 9.3   | 14.9  | 7.5   | 8.8   | 9.3   |
| HCM Lane LOS           | A     | A     | B     | A     | A     | A     |
| HCM 95th-tile Q        | 0.1   | 0.4   | 3.1   | 0.1   | 0.2   | 0.9   |

HCM 6th TWSC  
1: Loop Rd & Crystal Valley Pkwy

2028 Total  
PM Peak

| Intersection             |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
|--------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|
| Int Delay, s/veh         | 9.5                                                                               |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Movement                 | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | WBR                                                                               | NBL                                                                               | NBT                                                                               | NBR                                                                               | SBL                                                                               | SBT                                                                               | SBR                                                                               |
| Lane Configurations      |  |  |  |  |  |  |  |  |  |  |  |  |
| Traffic Vol, veh/h       | 29                                                                                | 436                                                                               | 215                                                                               | 96                                                                                | 328                                                                               | 4                                                                                 | 140                                                                               | 2                                                                                 | 62                                                                                | 17                                                                                | 3                                                                                 | 25                                                                                |
| Future Vol, veh/h        | 29                                                                                | 436                                                                               | 215                                                                               | 96                                                                                | 328                                                                               | 4                                                                                 | 140                                                                               | 2                                                                                 | 62                                                                                | 17                                                                                | 3                                                                                 | 25                                                                                |
| Conflicting Peds, #/hr   | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 |
| Sign Control             | Free                                                                              | Free                                                                              | Free                                                                              | Free                                                                              | Free                                                                              | Free                                                                              | Stop                                                                              | Stop                                                                              | Stop                                                                              | Stop                                                                              | Stop                                                                              | Stop                                                                              |
| RT Channelized           | -                                                                                 | -                                                                                 | None                                                                              | -                                                                                 | -                                                                                 | None                                                                              | -                                                                                 | -                                                                                 | None                                                                              | -                                                                                 | -                                                                                 | None                                                                              |
| Storage Length           | 280                                                                               | -                                                                                 | 280                                                                               | 410                                                                               | -                                                                                 | -                                                                                 | 315                                                                               | -                                                                                 | 0                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 |
| Veh in Median Storage, # | -                                                                                 | 0                                                                                 | -                                                                                 | -                                                                                 | 0                                                                                 | -                                                                                 | -                                                                                 | 0                                                                                 | -                                                                                 | -                                                                                 | 0                                                                                 | -                                                                                 |
| Grade, %                 | -                                                                                 | 0                                                                                 | -                                                                                 | -                                                                                 | 0                                                                                 | -                                                                                 | -                                                                                 | 0                                                                                 | -                                                                                 | -                                                                                 | 0                                                                                 | -                                                                                 |
| Peak Hour Factor         | 92                                                                                | 92                                                                                | 92                                                                                | 92                                                                                | 92                                                                                | 92                                                                                | 92                                                                                | 92                                                                                | 92                                                                                | 92                                                                                | 92                                                                                | 92                                                                                |
| Heavy Vehicles, %        | 2                                                                                 | 2                                                                                 | 2                                                                                 | 2                                                                                 | 2                                                                                 | 2                                                                                 | 2                                                                                 | 2                                                                                 | 2                                                                                 | 2                                                                                 | 2                                                                                 | 2                                                                                 |
| Mvmt Flow                | 32                                                                                | 474                                                                               | 234                                                                               | 104                                                                               | 357                                                                               | 4                                                                                 | 152                                                                               | 2                                                                                 | 67                                                                                | 18                                                                                | 3                                                                                 | 27                                                                                |
| Major/Minor              | Major1                                                                            |                                                                                   |                                                                                   | Major2                                                                            |                                                                                   |                                                                                   | Minor1                                                                            |                                                                                   |                                                                                   | Minor2                                                                            |                                                                                   |                                                                                   |
| Conflicting Flow All     | 361                                                                               | 0                                                                                 | 0                                                                                 | 708                                                                               | 0                                                                                 | 0                                                                                 | 926                                                                               | 1107                                                                              | 237                                                                               | 869                                                                               | 1339                                                                              | 181                                                                               |
| Stage 1                  | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | 538                                                                               | 538                                                                               | -                                                                                 | 567                                                                               | 567                                                                               | -                                                                                 |
| Stage 2                  | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | 388                                                                               | 569                                                                               | -                                                                                 | 302                                                                               | 772                                                                               | -                                                                                 |
| Critical Hdwy            | 4.14                                                                              | -                                                                                 | -                                                                                 | 4.14                                                                              | -                                                                                 | -                                                                                 | 7.54                                                                              | 6.54                                                                              | 6.94                                                                              | 7.54                                                                              | 6.54                                                                              | 6.94                                                                              |
| Critical Hdwy Stg 1      | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | 6.54                                                                              | 5.54                                                                              | -                                                                                 | 6.54                                                                              | 5.54                                                                              | -                                                                                 |
| Critical Hdwy Stg 2      | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | 6.54                                                                              | 5.54                                                                              | -                                                                                 | 6.54                                                                              | 5.54                                                                              | -                                                                                 |
| Follow-up Hdwy           | 2.22                                                                              | -                                                                                 | -                                                                                 | 2.22                                                                              | -                                                                                 | -                                                                                 | 3.52                                                                              | 4.02                                                                              | 3.32                                                                              | 3.52                                                                              | 4.02                                                                              | 3.32                                                                              |
| Pot Cap-1 Maneuver       | 1194                                                                              | -                                                                                 | -                                                                                 | 887                                                                               | -                                                                                 | -                                                                                 | 224                                                                               | 209                                                                               | 764                                                                               | 246                                                                               | 152                                                                               | 831                                                                               |
| Stage 1                  | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | 495                                                                               | 521                                                                               | -                                                                                 | 476                                                                               | 505                                                                               | -                                                                                 |
| Stage 2                  | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | 607                                                                               | 504                                                                               | -                                                                                 | 682                                                                               | 407                                                                               | -                                                                                 |
| Platoon blocked, %       | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 |
| Mov Cap-1 Maneuver       | 1194                                                                              | -                                                                                 | -                                                                                 | 887                                                                               | -                                                                                 | -                                                                                 | 190                                                                               | 180                                                                               | 764                                                                               | 198                                                                               | 131                                                                               | 831                                                                               |
| Mov Cap-2 Maneuver       | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | 190                                                                               | 180                                                                               | -                                                                                 | 198                                                                               | 131                                                                               | -                                                                                 |
| Stage 1                  | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | 482                                                                               | 507                                                                               | -                                                                                 | 463                                                                               | 446                                                                               | -                                                                                 |
| Stage 2                  | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | 515                                                                               | 445                                                                               | -                                                                                 | 603                                                                               | 396                                                                               | -                                                                                 |
| Approach                 | EB                                                                                |                                                                                   |                                                                                   | WB                                                                                |                                                                                   |                                                                                   | NB                                                                                |                                                                                   |                                                                                   | SB                                                                                |                                                                                   |                                                                                   |
| HCM Control Delay, s     | 0.3                                                                               |                                                                                   |                                                                                   | 2.2                                                                               |                                                                                   |                                                                                   | 53.6                                                                              |                                                                                   |                                                                                   | 18.1                                                                              |                                                                                   |                                                                                   |
| HCM LOS                  |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   | F                                                                                 |                                                                                   |                                                                                   | C                                                                                 |                                                                                   |                                                                                   |
| Minor Lane/Major Mvmt    | NBLn1                                                                             | NBLn2                                                                             | NBLn3                                                                             | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | WBR                                                                               | SBLn1                                                                             |                                                                                   |                                                                                   |
| Capacity (veh/h)         | 190                                                                               | 180                                                                               | 764                                                                               | 1194                                                                              | -                                                                                 | -                                                                                 | 887                                                                               | -                                                                                 | -                                                                                 | 324                                                                               |                                                                                   |                                                                                   |
| HCM Lane V/C Ratio       | 0.801                                                                             | 0.012                                                                             | 0.088                                                                             | 0.026                                                                             | -                                                                                 | -                                                                                 | 0.118                                                                             | -                                                                                 | -                                                                                 | 0.151                                                                             |                                                                                   |                                                                                   |
| HCM Control Delay (s)    | 73.2                                                                              | 25.2                                                                              | 10.2                                                                              | 8.1                                                                               | -                                                                                 | -                                                                                 | 9.6                                                                               | -                                                                                 | -                                                                                 | 18.1                                                                              |                                                                                   |                                                                                   |
| HCM Lane LOS             | F                                                                                 | D                                                                                 | B                                                                                 | A                                                                                 | -                                                                                 | -                                                                                 | A                                                                                 | -                                                                                 | -                                                                                 | C                                                                                 |                                                                                   |                                                                                   |
| HCM 95th %tile Q(veh)    | 5.6                                                                               | 0                                                                                 | 0.3                                                                               | 0.1                                                                               | -                                                                                 | -                                                                                 | 0.4                                                                               | -                                                                                 | -                                                                                 | 0.5                                                                               |                                                                                   |                                                                                   |

HCM 6th TWSC  
2: Idylwood St & Crystal Valley Pkwy

2028 Total  
PM Peak

| Intersection             |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |        |      |                                                                                     |
|--------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|--------|------|-------------------------------------------------------------------------------------|
| Int Delay, s/veh         | 1.8                                                                               |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |        |      |                                                                                     |
| Movement                 | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | WBR                                                                               | NBL                                                                               | NBT                                                                               | NBR                                                                               | SBL    | SBT  | SBR                                                                                 |
| Lane Configurations      |  |  |  |  |  |  |  |  |  |        |      |  |
| Traffic Vol, veh/h       | 41                                                                                | 432                                                                               | 42                                                                                | 18                                                                                | 375                                                                               | 28                                                                                | 23                                                                                | 2                                                                                 | 10                                                                                | 0      | 0    | 27                                                                                  |
| Future Vol, veh/h        | 41                                                                                | 432                                                                               | 42                                                                                | 18                                                                                | 375                                                                               | 28                                                                                | 23                                                                                | 2                                                                                 | 10                                                                                | 0      | 0    | 27                                                                                  |
| Conflicting Peds, #/hr   | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0      | 0    | 0                                                                                   |
| Sign Control             | Free                                                                              | Free                                                                              | Free                                                                              | Free                                                                              | Free                                                                              | Free                                                                              | Stop                                                                              | Stop                                                                              | Stop                                                                              | Stop   | Stop | Stop                                                                                |
| RT Channelized           | -                                                                                 | -                                                                                 | None                                                                              | -                                                                                 | -                                                                                 | None                                                                              | -                                                                                 | -                                                                                 | None                                                                              | -      | -    | None                                                                                |
| Storage Length           | 255                                                                               | -                                                                                 | 285                                                                               | 225                                                                               | -                                                                                 | 315                                                                               | -                                                                                 | -                                                                                 | -                                                                                 | -      | -    | 0                                                                                   |
| Veh in Median Storage, # | -                                                                                 | 0                                                                                 | -                                                                                 | -                                                                                 | 0                                                                                 | -                                                                                 | -                                                                                 | 0                                                                                 | -                                                                                 | -      | 0    | -                                                                                   |
| Grade, %                 | -                                                                                 | 0                                                                                 | -                                                                                 | -                                                                                 | 0                                                                                 | -                                                                                 | -                                                                                 | 0                                                                                 | -                                                                                 | -      | 0    | -                                                                                   |
| Peak Hour Factor         | 83                                                                                | 83                                                                                | 83                                                                                | 83                                                                                | 83                                                                                | 83                                                                                | 83                                                                                | 83                                                                                | 83                                                                                | 83     | 83   | 83                                                                                  |
| Heavy Vehicles, %        | 2                                                                                 | 2                                                                                 | 2                                                                                 | 2                                                                                 | 2                                                                                 | 2                                                                                 | 2                                                                                 | 2                                                                                 | 2                                                                                 | 2      | 2    | 2                                                                                   |
| Mvmt Flow                | 49                                                                                | 520                                                                               | 51                                                                                | 22                                                                                | 452                                                                               | 34                                                                                | 28                                                                                | 2                                                                                 | 12                                                                                | 0      | 0    | 33                                                                                  |
| Major/Minor              | Major1                                                                            |                                                                                   |                                                                                   | Major2                                                                            |                                                                                   |                                                                                   | Minor1                                                                            |                                                                                   |                                                                                   | Minor2 |      |                                                                                     |
| Conflicting Flow All     | 486                                                                               | 0                                                                                 | 0                                                                                 | 571                                                                               | 0                                                                                 | 0                                                                                 | 1148                                                                              | 1148                                                                              | 520                                                                               | -      | -    | 452                                                                                 |
| Stage 1                  | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | 618                                                                               | 618                                                                               | -                                                                                 | -      | -    | -                                                                                   |
| Stage 2                  | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | 530                                                                               | 530                                                                               | -                                                                                 | -      | -    | -                                                                                   |
| Critical Hdwy            | 4.12                                                                              | -                                                                                 | -                                                                                 | 4.12                                                                              | -                                                                                 | -                                                                                 | 7.12                                                                              | 6.52                                                                              | 6.22                                                                              | -      | -    | 6.22                                                                                |
| Critical Hdwy Stg 1      | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | 6.12                                                                              | 5.52                                                                              | -                                                                                 | -      | -    | -                                                                                   |
| Critical Hdwy Stg 2      | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | 6.12                                                                              | 5.52                                                                              | -                                                                                 | -      | -    | -                                                                                   |
| Follow-up Hdwy           | 2.218                                                                             | -                                                                                 | -                                                                                 | 2.218                                                                             | -                                                                                 | -                                                                                 | 3.518                                                                             | 4.018                                                                             | 3.318                                                                             | -      | -    | 3.318                                                                               |
| Pot Cap-1 Maneuver       | 1077                                                                              | -                                                                                 | -                                                                                 | 1002                                                                              | -                                                                                 | -                                                                                 | 176                                                                               | 199                                                                               | 556                                                                               | 0      | 0    | 608                                                                                 |
| Stage 1                  | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | 477                                                                               | 481                                                                               | -                                                                                 | 0      | 0    | -                                                                                   |
| Stage 2                  | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | 533                                                                               | 527                                                                               | -                                                                                 | 0      | 0    | -                                                                                   |
| Platoon blocked, %       | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -      | -    | -                                                                                   |
| Mov Cap-1 Maneuver       | 1077                                                                              | -                                                                                 | -                                                                                 | 1002                                                                              | -                                                                                 | -                                                                                 | 158                                                                               | 186                                                                               | 556                                                                               | -      | -    | 608                                                                                 |
| Mov Cap-2 Maneuver       | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | 158                                                                               | 186                                                                               | -                                                                                 | -      | -    | -                                                                                   |
| Stage 1                  | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | 456                                                                               | 459                                                                               | -                                                                                 | -      | -    | -                                                                                   |
| Stage 2                  | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | 493                                                                               | 515                                                                               | -                                                                                 | -      | -    | -                                                                                   |
| Approach                 | EB                                                                                |                                                                                   |                                                                                   | WB                                                                                |                                                                                   |                                                                                   | NB                                                                                |                                                                                   |                                                                                   | SB     |      |                                                                                     |
| HCM Control Delay, s     | 0.7                                                                               |                                                                                   |                                                                                   | 0.4                                                                               |                                                                                   |                                                                                   | 26.2                                                                              |                                                                                   |                                                                                   | 11.3   |      |                                                                                     |
| HCM LOS                  |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   | D                                                                                 |                                                                                   |                                                                                   | B      |      |                                                                                     |
| Minor Lane/Major Mvmt    | NBLn1                                                                             | NBLn2                                                                             | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | WBR                                                                               | SBLn1                                                                             |        |      |                                                                                     |
| Capacity (veh/h)         | 158                                                                               | 418                                                                               | 1077                                                                              | -                                                                                 | -                                                                                 | 1002                                                                              | -                                                                                 | -                                                                                 | 608                                                                               |        |      |                                                                                     |
| HCM Lane V/C Ratio       | 0.175                                                                             | 0.035                                                                             | 0.046                                                                             | -                                                                                 | -                                                                                 | 0.022                                                                             | -                                                                                 | -                                                                                 | 0.054                                                                             |        |      |                                                                                     |
| HCM Control Delay (s)    | 32.6                                                                              | 13.9                                                                              | 8.5                                                                               | -                                                                                 | -                                                                                 | 8.7                                                                               | -                                                                                 | -                                                                                 | 11.3                                                                              |        |      |                                                                                     |
| HCM Lane LOS             | D                                                                                 | B                                                                                 | A                                                                                 | -                                                                                 | -                                                                                 | A                                                                                 | -                                                                                 | -                                                                                 | B                                                                                 |        |      |                                                                                     |
| HCM 95th %tile Q(veh)    | 0.6                                                                               | 0.1                                                                               | 0.1                                                                               | -                                                                                 | -                                                                                 | 0.1                                                                               | -                                                                                 | -                                                                                 | 0.2                                                                               |        |      |                                                                                     |

HCM 6th AWSC  
3: Lake Gulch Rd & Crystal Valley Pkwy

2028 Total  
PM Peak

| Intersection              |      |
|---------------------------|------|
| Intersection Delay, s/veh | 11.6 |
| Intersection LOS          | B    |

| Movement            | EBL                                                                               | EBR                                                                               | NBL                                                                               | NBT                                                                               | SBT                                                                               | SBR                                                                               |
|---------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|
| Lane Configurations |  |  |  |  |  |  |
| Traffic Vol, veh/h  | 202                                                                               | 45                                                                                | 40                                                                                | 30                                                                                | 60                                                                                | 320                                                                               |
| Future Vol, veh/h   | 202                                                                               | 45                                                                                | 40                                                                                | 30                                                                                | 60                                                                                | 320                                                                               |
| Peak Hour Factor    | 0.88                                                                              | 0.88                                                                              | 0.88                                                                              | 0.88                                                                              | 0.88                                                                              | 0.88                                                                              |
| Heavy Vehicles, %   | 2                                                                                 | 2                                                                                 | 2                                                                                 | 2                                                                                 | 2                                                                                 | 2                                                                                 |
| Mvmt Flow           | 230                                                                               | 51                                                                                | 45                                                                                | 34                                                                                | 68                                                                                | 364                                                                               |
| Number of Lanes     | 1                                                                                 | 1                                                                                 | 1                                                                                 | 1                                                                                 | 1                                                                                 | 1                                                                                 |

| Approach                   | EB   | NB  | SB   |
|----------------------------|------|-----|------|
| Opposing Approach          |      | SB  | NB   |
| Opposing Lanes             | 0    | 2   | 2    |
| Conflicting Approach Left  | SB   | EB  |      |
| Conflicting Lanes Left     | 2    | 2   | 0    |
| Conflicting Approach Right | NB   |     | EB   |
| Conflicting Lanes Right    | 2    | 0   | 2    |
| HCM Control Delay          | 12.3 | 9.4 | 11.5 |
| HCM LOS                    | B    | A   | B    |

| Lane                   | NBLn1 | NBLn2 | EBLn1 | EBLn2 | SBLn1 | SBLn2 |
|------------------------|-------|-------|-------|-------|-------|-------|
| Vol Left, %            | 100%  | 0%    | 100%  | 0%    | 0%    | 0%    |
| Vol Thru, %            | 0%    | 100%  | 0%    | 0%    | 100%  | 0%    |
| Vol Right, %           | 0%    | 0%    | 0%    | 100%  | 0%    | 100%  |
| Sign Control           | Stop  | Stop  | Stop  | Stop  | Stop  | Stop  |
| Traffic Vol by Lane    | 40    | 30    | 202   | 45    | 60    | 320   |
| LT Vol                 | 40    | 0     | 202   | 0     | 0     | 0     |
| Through Vol            | 0     | 30    | 0     | 0     | 60    | 0     |
| RT Vol                 | 0     | 0     | 0     | 45    | 0     | 320   |
| Lane Flow Rate         | 45    | 34    | 230   | 51    | 68    | 364   |
| Geometry Grp           | 5     | 5     | 5     | 5     | 5     | 5     |
| Degree of Util (X)     | 0.081 | 0.056 | 0.402 | 0.072 | 0.104 | 0.482 |
| Departure Headway (Hd) | 6.436 | 5.929 | 6.305 | 5.098 | 5.474 | 4.768 |
| Convergence, Y/N       | Yes   | Yes   | Yes   | Yes   | Yes   | Yes   |
| Cap                    | 560   | 608   | 574   | 707   | 650   | 749   |
| Service Time           | 4.136 | 3.629 | 4.008 | 2.801 | 3.25  | 2.544 |
| HCM Lane V/C Ratio     | 0.08  | 0.056 | 0.401 | 0.072 | 0.105 | 0.486 |
| HCM Control Delay      | 9.7   | 9     | 13.2  | 8.2   | 8.9   | 12    |
| HCM Lane LOS           | A     | A     | B     | A     | A     | B     |
| HCM 95th-tile Q        | 0.3   | 0.2   | 1.9   | 0.2   | 0.3   | 2.6   |

# HCM 6th Signalized Intersection Summary

## 1: Loop Rd & Crystal Valley Pkwy

2028 Total  
AM Peak - Signal at #1

|                                                                    |  |  |  |  |  |  |  |  |  |  |  |  |
|--------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Movement                                                           | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | WBR                                                                               | NBL                                                                                | NBT                                                                                 | NBR                                                                                 | SBL                                                                                 | SBT                                                                                 | SBR                                                                                 |
| Lane Configurations                                                |  |  |  |  |  |                                                                                   |  |  |  |                                                                                     |  |  |
| Traffic Volume (veh/h)                                             | 8                                                                                 | 267                                                                               | 95                                                                                | 42                                                                                | 493                                                                               | 1                                                                                 | 215                                                                                | 1                                                                                   | 91                                                                                  | 17                                                                                  | 3                                                                                   | 20                                                                                  |
| Future Volume (veh/h)                                              | 8                                                                                 | 267                                                                               | 95                                                                                | 42                                                                                | 493                                                                               | 1                                                                                 | 215                                                                                | 1                                                                                   | 91                                                                                  | 17                                                                                  | 3                                                                                   | 20                                                                                  |
| Initial Q (Qb), veh                                                | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                  | 0                                                                                   | 0                                                                                   | 0                                                                                   | 0                                                                                   | 0                                                                                   |
| Ped-Bike Adj(A_pbT)                                                | 1.00                                                                              |                                                                                   | 1.00                                                                              | 1.00                                                                              |                                                                                   | 1.00                                                                              | 1.00                                                                               |                                                                                     | 1.00                                                                                | 1.00                                                                                |                                                                                     | 1.00                                                                                |
| Parking Bus, Adj                                                   | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                               | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                |
| Work Zone On Approach                                              |                                                                                   | No                                                                                |                                                                                   |                                                                                   | No                                                                                |                                                                                   |                                                                                    | No                                                                                  |                                                                                     |                                                                                     | No                                                                                  |                                                                                     |
| Adj Sat Flow, veh/h/ln                                             | 1870                                                                              | 1870                                                                              | 1870                                                                              | 1870                                                                              | 1870                                                                              | 1870                                                                              | 1870                                                                               | 1870                                                                                | 1870                                                                                | 1870                                                                                | 1870                                                                                | 1870                                                                                |
| Adj Flow Rate, veh/h                                               | 8                                                                                 | 281                                                                               | 100                                                                               | 44                                                                                | 519                                                                               | 1                                                                                 | 226                                                                                | 1                                                                                   | 96                                                                                  | 18                                                                                  | 3                                                                                   | 21                                                                                  |
| Peak Hour Factor                                                   | 0.95                                                                              | 0.95                                                                              | 0.95                                                                              | 0.95                                                                              | 0.95                                                                              | 0.95                                                                              | 0.95                                                                               | 0.95                                                                                | 0.95                                                                                | 0.95                                                                                | 0.95                                                                                | 0.95                                                                                |
| Percent Heavy Veh, %                                               | 2                                                                                 | 2                                                                                 | 2                                                                                 | 2                                                                                 | 2                                                                                 | 2                                                                                 | 2                                                                                  | 2                                                                                   | 2                                                                                   | 2                                                                                   | 2                                                                                   | 2                                                                                   |
| Cap, veh/h                                                         | 591                                                                               | 2149                                                                              | 959                                                                               | 707                                                                               | 2293                                                                              | 4                                                                                 | 373                                                                                | 393                                                                                 | 333                                                                                 | 77                                                                                  | 12                                                                                  | 38                                                                                  |
| Arrive On Green                                                    | 0.01                                                                              | 0.60                                                                              | 0.60                                                                              | 0.04                                                                              | 0.63                                                                              | 0.63                                                                              | 0.11                                                                               | 0.21                                                                                | 0.21                                                                                | 0.05                                                                                | 0.05                                                                                | 0.05                                                                                |
| Sat Flow, veh/h                                                    | 1781                                                                              | 3554                                                                              | 1585                                                                              | 1781                                                                              | 3639                                                                              | 7                                                                                 | 1781                                                                               | 1870                                                                                | 1585                                                                                | 518                                                                                 | 235                                                                                 | 753                                                                                 |
| Grp Volume(v), veh/h                                               | 8                                                                                 | 281                                                                               | 100                                                                               | 44                                                                                | 253                                                                               | 267                                                                               | 226                                                                                | 1                                                                                   | 96                                                                                  | 42                                                                                  | 0                                                                                   | 0                                                                                   |
| Grp Sat Flow(s),veh/h/ln                                           | 1781                                                                              | 1777                                                                              | 1585                                                                              | 1781                                                                              | 1777                                                                              | 1869                                                                              | 1781                                                                               | 1870                                                                                | 1585                                                                                | 1507                                                                                | 0                                                                                   | 0                                                                                   |
| Q Serve(g_s), s                                                    | 0.2                                                                               | 3.4                                                                               | 2.7                                                                               | 0.9                                                                               | 6.2                                                                               | 6.2                                                                               | 11.0                                                                               | 0.0                                                                                 | 5.1                                                                                 | 1.8                                                                                 | 0.0                                                                                 | 0.0                                                                                 |
| Cycle Q Clear(g_c), s                                              | 0.2                                                                               | 3.4                                                                               | 2.7                                                                               | 0.9                                                                               | 6.2                                                                               | 6.2                                                                               | 11.0                                                                               | 0.0                                                                                 | 5.1                                                                                 | 2.7                                                                                 | 0.0                                                                                 | 0.0                                                                                 |
| Prop In Lane                                                       | 1.00                                                                              |                                                                                   | 1.00                                                                              | 1.00                                                                              |                                                                                   | 0.00                                                                              | 1.00                                                                               |                                                                                     | 1.00                                                                                | 0.43                                                                                |                                                                                     | 0.50                                                                                |
| Lane Grp Cap(c), veh/h                                             | 591                                                                               | 2149                                                                              | 959                                                                               | 707                                                                               | 1119                                                                              | 1178                                                                              | 373                                                                                | 393                                                                                 | 333                                                                                 | 127                                                                                 | 0                                                                                   | 0                                                                                   |
| V/C Ratio(X)                                                       | 0.01                                                                              | 0.13                                                                              | 0.10                                                                              | 0.06                                                                              | 0.23                                                                              | 0.23                                                                              | 0.61                                                                               | 0.00                                                                                | 0.29                                                                                | 0.33                                                                                | 0.00                                                                                | 0.00                                                                                |
| Avail Cap(c_a), veh/h                                              | 698                                                                               | 2149                                                                              | 959                                                                               | 769                                                                               | 1119                                                                              | 1178                                                                              | 373                                                                                | 468                                                                                 | 396                                                                                 | 185                                                                                 | 0                                                                                   | 0                                                                                   |
| HCM Platoon Ratio                                                  | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                               | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                |
| Upstream Filter(I)                                                 | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                               | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 0.00                                                                                | 0.00                                                                                |
| Uniform Delay (d), s/veh                                           | 7.5                                                                               | 8.5                                                                               | 8.3                                                                               | 6.7                                                                               | 8.0                                                                               | 8.0                                                                               | 38.5                                                                               | 31.2                                                                                | 33.2                                                                                | 46.3                                                                                | 0.0                                                                                 | 0.0                                                                                 |
| Incr Delay (d2), s/veh                                             | 0.0                                                                               | 0.1                                                                               | 0.2                                                                               | 0.0                                                                               | 0.5                                                                               | 0.4                                                                               | 2.8                                                                                | 0.0                                                                                 | 0.5                                                                                 | 1.5                                                                                 | 0.0                                                                                 | 0.0                                                                                 |
| Initial Q Delay(d3),s/veh                                          | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               | 0.0                                                                                | 0.0                                                                                 | 0.0                                                                                 | 0.0                                                                                 | 0.0                                                                                 | 0.0                                                                                 |
| %ile BackOfQ(50%),veh/ln                                           | 0.1                                                                               | 1.2                                                                               | 0.8                                                                               | 0.3                                                                               | 2.1                                                                               | 2.2                                                                               | 5.4                                                                                | 0.0                                                                                 | 1.9                                                                                 | 1.1                                                                                 | 0.0                                                                                 | 0.0                                                                                 |
| Unsig. Movement Delay, s/veh                                       |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| LnGrp Delay(d),s/veh                                               | 7.5                                                                               | 8.6                                                                               | 8.6                                                                               | 6.7                                                                               | 8.5                                                                               | 8.4                                                                               | 41.3                                                                               | 31.2                                                                                | 33.7                                                                                | 47.9                                                                                | 0.0                                                                                 | 0.0                                                                                 |
| LnGrp LOS                                                          | A                                                                                 | A                                                                                 | A                                                                                 | A                                                                                 | A                                                                                 | A                                                                                 | D                                                                                  | C                                                                                   | C                                                                                   | D                                                                                   | A                                                                                   | A                                                                                   |
| Approach Vol, veh/h                                                |                                                                                   | 389                                                                               |                                                                                   |                                                                                   | 564                                                                               |                                                                                   |                                                                                    | 323                                                                                 |                                                                                     |                                                                                     | 42                                                                                  |                                                                                     |
| Approach Delay, s/veh                                              |                                                                                   | 8.6                                                                               |                                                                                   |                                                                                   | 8.3                                                                               |                                                                                   |                                                                                    | 39.0                                                                                |                                                                                     |                                                                                     | 47.9                                                                                |                                                                                     |
| Approach LOS                                                       |                                                                                   | A                                                                                 |                                                                                   |                                                                                   | A                                                                                 |                                                                                   |                                                                                    | D                                                                                   |                                                                                     |                                                                                     | D                                                                                   |                                                                                     |
| Timer - Assigned Phs                                               |                                                                                   | 2                                                                                 | 3                                                                                 | 4                                                                                 | 5                                                                                 | 6                                                                                 | 7                                                                                  | 8                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Phs Duration (G+Y+Rc), s                                           |                                                                                   | 26.0                                                                              | 8.5                                                                               | 65.5                                                                              | 16.0                                                                              | 10.0                                                                              | 6.0                                                                                | 68.0                                                                                |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Change Period (Y+Rc), s                                            |                                                                                   | 5.0                                                                               | 5.0                                                                               | 5.0                                                                               | 5.0                                                                               | 5.0                                                                               | 5.0                                                                                | 5.0                                                                                 |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Max Green Setting (Gmax), s                                        |                                                                                   | 25.0                                                                              | 7.0                                                                               | 53.0                                                                              | 11.0                                                                              | 9.0                                                                               | 7.0                                                                                | 53.0                                                                                |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Max Q Clear Time (g_c+I1), s                                       |                                                                                   | 7.1                                                                               | 2.9                                                                               | 5.4                                                                               | 13.0                                                                              | 4.7                                                                               | 2.2                                                                                | 8.2                                                                                 |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Green Ext Time (p_c), s                                            |                                                                                   | 0.2                                                                               | 0.0                                                                               | 2.1                                                                               | 0.0                                                                               | 0.0                                                                               | 0.0                                                                                | 3.0                                                                                 |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| <b>Intersection Summary</b>                                        |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| HCM 6th Ctrl Delay                                                 |                                                                                   |                                                                                   | 17.2                                                                              |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| HCM 6th LOS                                                        |                                                                                   |                                                                                   | B                                                                                 |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| <b>Notes</b>                                                       |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| User approved pedestrian interval to be less than phase max green. |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |

HCM 6th TWSC  
2: Idylwood St & Crystal Valley Pkwy

2028 Total  
AM Peak - Signal at #1

| Intersection             |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |        |      |                                                                                     |
|--------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|--------|------|-------------------------------------------------------------------------------------|
| Int Delay, s/veh         | 2.8                                                                               |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |        |      |                                                                                     |
| Movement                 | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | WBR                                                                               | NBL                                                                               | NBT                                                                               | NBR                                                                               | SBL    | SBT  | SBR                                                                                 |
| Lane Configurations      |  |  |  |  |  |  |  |  |  |        |      |  |
| Traffic Vol, veh/h       | 14                                                                                | 347                                                                               | 16                                                                                | 7                                                                                 | 450                                                                               | 9                                                                                 | 45                                                                                | 1                                                                                 | 20                                                                                | 0      | 0    | 42                                                                                  |
| Future Vol, veh/h        | 14                                                                                | 347                                                                               | 16                                                                                | 7                                                                                 | 450                                                                               | 9                                                                                 | 45                                                                                | 1                                                                                 | 20                                                                                | 0      | 0    | 42                                                                                  |
| Conflicting Peds, #/hr   | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0      | 0    | 0                                                                                   |
| Sign Control             | Free                                                                              | Free                                                                              | Free                                                                              | Free                                                                              | Free                                                                              | Free                                                                              | Stop                                                                              | Stop                                                                              | Stop                                                                              | Stop   | Stop | Stop                                                                                |
| RT Channelized           | -                                                                                 | -                                                                                 | None                                                                              | -                                                                                 | -                                                                                 | None                                                                              | -                                                                                 | -                                                                                 | None                                                                              | -      | -    | None                                                                                |
| Storage Length           | 255                                                                               | -                                                                                 | -                                                                                 | 225                                                                               | -                                                                                 | 315                                                                               | -                                                                                 | -                                                                                 | -                                                                                 | -      | -    | 0                                                                                   |
| Veh in Median Storage, # | -                                                                                 | 0                                                                                 | -                                                                                 | -                                                                                 | 0                                                                                 | -                                                                                 | -                                                                                 | 0                                                                                 | -                                                                                 | -      | 0    | -                                                                                   |
| Grade, %                 | -                                                                                 | 0                                                                                 | -                                                                                 | -                                                                                 | 0                                                                                 | -                                                                                 | -                                                                                 | 0                                                                                 | -                                                                                 | -      | 0    | -                                                                                   |
| Peak Hour Factor         | 80                                                                                | 80                                                                                | 80                                                                                | 80                                                                                | 80                                                                                | 80                                                                                | 80                                                                                | 80                                                                                | 80                                                                                | 80     | 80   | 80                                                                                  |
| Heavy Vehicles, %        | 2                                                                                 | 2                                                                                 | 2                                                                                 | 2                                                                                 | 2                                                                                 | 2                                                                                 | 2                                                                                 | 2                                                                                 | 2                                                                                 | 2      | 2    | 2                                                                                   |
| Mvmt Flow                | 18                                                                                | 434                                                                               | 20                                                                                | 9                                                                                 | 563                                                                               | 11                                                                                | 56                                                                                | 1                                                                                 | 25                                                                                | 0      | 0    | 53                                                                                  |
| Major/Minor              | Major1                                                                            |                                                                                   |                                                                                   | Major2                                                                            |                                                                                   |                                                                                   | Minor1                                                                            |                                                                                   |                                                                                   | Minor2 |      |                                                                                     |
| Conflicting Flow All     | 574                                                                               | 0                                                                                 | 0                                                                                 | 454                                                                               | 0                                                                                 | 0                                                                                 | 1083                                                                              | 1062                                                                              | 434                                                                               | -      | -    | 563                                                                                 |
| Stage 1                  | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | 470                                                                               | 470                                                                               | -                                                                                 | -      | -    | -                                                                                   |
| Stage 2                  | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | 613                                                                               | 592                                                                               | -                                                                                 | -      | -    | -                                                                                   |
| Critical Hdwy            | 4.12                                                                              | -                                                                                 | -                                                                                 | 4.12                                                                              | -                                                                                 | -                                                                                 | 7.12                                                                              | 6.52                                                                              | 6.22                                                                              | -      | -    | 6.22                                                                                |
| Critical Hdwy Stg 1      | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | 6.12                                                                              | 5.52                                                                              | -                                                                                 | -      | -    | -                                                                                   |
| Critical Hdwy Stg 2      | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | 6.12                                                                              | 5.52                                                                              | -                                                                                 | -      | -    | -                                                                                   |
| Follow-up Hdwy           | 2.218                                                                             | -                                                                                 | -                                                                                 | 2.218                                                                             | -                                                                                 | -                                                                                 | 3.518                                                                             | 4.018                                                                             | 3.318                                                                             | -      | -    | 3.318                                                                               |
| Pot Cap-1 Maneuver       | 999                                                                               | -                                                                                 | -                                                                                 | 1117                                                                              | -                                                                                 | -                                                                                 | 181                                                                               | 203                                                                               | 745                                                                               | 0      | 0    | 526                                                                                 |
| Stage 1                  | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | 664                                                                               | 596                                                                               | -                                                                                 | 0      | 0    | -                                                                                   |
| Stage 2                  | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | 480                                                                               | 494                                                                               | -                                                                                 | 0      | 0    | -                                                                                   |
| Platoon blocked, %       |                                                                                   | -                                                                                 | -                                                                                 | 1                                                                                 | -                                                                                 | -                                                                                 | 1                                                                                 | 1                                                                                 | 1                                                                                 |        |      |                                                                                     |
| Mov Cap-1 Maneuver       | 999                                                                               | -                                                                                 | -                                                                                 | 1117                                                                              | -                                                                                 | -                                                                                 | 160                                                                               | 198                                                                               | 745                                                                               | -      | -    | 526                                                                                 |
| Mov Cap-2 Maneuver       | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | 160                                                                               | 198                                                                               | -                                                                                 | -      | -    | -                                                                                   |
| Stage 1                  | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | 652                                                                               | 586                                                                               | -                                                                                 | -      | -    | -                                                                                   |
| Stage 2                  | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | 429                                                                               | 490                                                                               | -                                                                                 | -      | -    | -                                                                                   |
| Approach                 | EB                                                                                |                                                                                   |                                                                                   | WB                                                                                |                                                                                   |                                                                                   | NB                                                                                |                                                                                   |                                                                                   | SB     |      |                                                                                     |
| HCM Control Delay, s     | 0.3                                                                               |                                                                                   |                                                                                   | 0.1                                                                               |                                                                                   |                                                                                   | 30.1                                                                              |                                                                                   |                                                                                   | 12.6   |      |                                                                                     |
| HCM LOS                  |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   | D                                                                                 |                                                                                   |                                                                                   | B      |      |                                                                                     |
| Minor Lane/Major Mvmt    | NBLn1                                                                             | NBLn2                                                                             | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | WBR                                                                               | SBLn1                                                                             |        |      |                                                                                     |
| Capacity (veh/h)         | 160                                                                               | 658                                                                               | 999                                                                               | -                                                                                 | -                                                                                 | 1117                                                                              | -                                                                                 | -                                                                                 | 526                                                                               |        |      |                                                                                     |
| HCM Lane V/C Ratio       | 0.352                                                                             | 0.04                                                                              | 0.018                                                                             | -                                                                                 | -                                                                                 | 0.008                                                                             | -                                                                                 | -                                                                                 | 0.1                                                                               |        |      |                                                                                     |
| HCM Control Delay (s)    | 39.2                                                                              | 10.7                                                                              | 8.7                                                                               | -                                                                                 | -                                                                                 | 8.2                                                                               | -                                                                                 | -                                                                                 | 12.6                                                                              |        |      |                                                                                     |
| HCM Lane LOS             | E                                                                                 | B                                                                                 | A                                                                                 | -                                                                                 | -                                                                                 | A                                                                                 | -                                                                                 | -                                                                                 | B                                                                                 |        |      |                                                                                     |
| HCM 95th %tile Q(veh)    | 1.5                                                                               | 0.1                                                                               | 0.1                                                                               | -                                                                                 | -                                                                                 | 0                                                                                 | -                                                                                 | -                                                                                 | 0.3                                                                               |        |      |                                                                                     |

HCM 6th AWSC  
3: Lake Gulch Rd & Crystal Valley Pkwy

2028 Total  
AM Peak - Signal at #1

| Intersection              |    |
|---------------------------|----|
| Intersection Delay, s/veh | 12 |
| Intersection LOS          | B  |

| Movement            | EBL                                                                               | EBR                                                                               | NBL                                                                               | NBT                                                                               | SBT                                                                               | SBR                                                                               |
|---------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|
| Lane Configurations |  |  |  |  |  |  |
| Traffic Vol, veh/h  | 307                                                                               | 20                                                                                | 25                                                                                | 65                                                                                | 30                                                                                | 156                                                                               |
| Future Vol, veh/h   | 307                                                                               | 20                                                                                | 25                                                                                | 65                                                                                | 30                                                                                | 156                                                                               |
| Peak Hour Factor    | 0.93                                                                              | 0.93                                                                              | 0.93                                                                              | 0.93                                                                              | 0.93                                                                              | 0.93                                                                              |
| Heavy Vehicles, %   | 2                                                                                 | 2                                                                                 | 2                                                                                 | 2                                                                                 | 2                                                                                 | 2                                                                                 |
| Mvmt Flow           | 330                                                                               | 22                                                                                | 27                                                                                | 70                                                                                | 32                                                                                | 168                                                                               |
| Number of Lanes     | 1                                                                                 | 1                                                                                 | 1                                                                                 | 1                                                                                 | 1                                                                                 | 1                                                                                 |

| Approach                   | EB   | NB  | SB  |
|----------------------------|------|-----|-----|
| Opposing Approach          |      | SB  | NB  |
| Opposing Lanes             | 0    | 2   | 2   |
| Conflicting Approach Left  | SB   | EB  |     |
| Conflicting Lanes Left     | 2    | 2   | 0   |
| Conflicting Approach Right | NB   |     | EB  |
| Conflicting Lanes Right    | 2    | 0   | 2   |
| HCM Control Delay          | 14.4 | 9.3 | 9.2 |
| HCM LOS                    | B    | A   | A   |

| Lane                   | NBLn1 | NBLn2 | EBLn1 | EBLn2 | SBLn1 | SBLn2 |
|------------------------|-------|-------|-------|-------|-------|-------|
| Vol Left, %            | 100%  | 0%    | 100%  | 0%    | 0%    | 0%    |
| Vol Thru, %            | 0%    | 100%  | 0%    | 0%    | 100%  | 0%    |
| Vol Right, %           | 0%    | 0%    | 0%    | 100%  | 0%    | 100%  |
| Sign Control           | Stop  | Stop  | Stop  | Stop  | Stop  | Stop  |
| Traffic Vol by Lane    | 25    | 65    | 307   | 20    | 30    | 156   |
| LT Vol                 | 25    | 0     | 307   | 0     | 0     | 0     |
| Through Vol            | 0     | 65    | 0     | 0     | 30    | 0     |
| RT Vol                 | 0     | 0     | 0     | 20    | 0     | 156   |
| Lane Flow Rate         | 27    | 70    | 330   | 22    | 32    | 168   |
| Geometry Grp           | 5     | 5     | 5     | 5     | 5     | 5     |
| Degree of Util (X)     | 0.047 | 0.113 | 0.529 | 0.027 | 0.051 | 0.233 |
| Departure Headway (Hd) | 6.307 | 5.8   | 5.764 | 4.56  | 5.699 | 4.991 |
| Convergence, Y/N       | Yes   | Yes   | Yes   | Yes   | Yes   | Yes   |
| Cap                    | 565   | 614   | 621   | 777   | 625   | 715   |
| Service Time           | 4.082 | 3.575 | 3.536 | 2.332 | 3.461 | 2.753 |
| HCM Lane V/C Ratio     | 0.048 | 0.114 | 0.531 | 0.028 | 0.051 | 0.235 |
| HCM Control Delay      | 9.4   | 9.3   | 14.9  | 7.5   | 8.8   | 9.3   |
| HCM Lane LOS           | A     | A     | B     | A     | A     | A     |
| HCM 95th-tile Q        | 0.1   | 0.4   | 3.1   | 0.1   | 0.2   | 0.9   |

# HCM 6th Signalized Intersection Summary

## 1: Loop Rd & Crystal Valley Pkwy

2028 Total  
PM Peak - Signal at #1

|                                                                    |  |  |  |  |  |  |  |  |  |  |  |  |
|--------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Movement                                                           | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | WBR                                                                               | NBL                                                                                | NBT                                                                                 | NBR                                                                                 | SBL                                                                                 | SBT                                                                                 | SBR                                                                                 |
| Lane Configurations                                                |  |  |  |  |  |                                                                                   |  |  |  |                                                                                     |  |  |
| Traffic Volume (veh/h)                                             | 29                                                                                | 436                                                                               | 215                                                                               | 96                                                                                | 328                                                                               | 4                                                                                 | 140                                                                                | 2                                                                                   | 62                                                                                  | 17                                                                                  | 3                                                                                   | 25                                                                                  |
| Future Volume (veh/h)                                              | 29                                                                                | 436                                                                               | 215                                                                               | 96                                                                                | 328                                                                               | 4                                                                                 | 140                                                                                | 2                                                                                   | 62                                                                                  | 17                                                                                  | 3                                                                                   | 25                                                                                  |
| Initial Q (Qb), veh                                                | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                  | 0                                                                                   | 0                                                                                   | 0                                                                                   | 0                                                                                   | 0                                                                                   |
| Ped-Bike Adj(A_pbT)                                                | 1.00                                                                              |                                                                                   | 1.00                                                                              | 1.00                                                                              |                                                                                   | 1.00                                                                              | 1.00                                                                               |                                                                                     | 1.00                                                                                | 1.00                                                                                |                                                                                     | 1.00                                                                                |
| Parking Bus, Adj                                                   | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                               | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                |
| Work Zone On Approach                                              |                                                                                   | No                                                                                |                                                                                   |                                                                                   | No                                                                                |                                                                                   |                                                                                    | No                                                                                  |                                                                                     |                                                                                     | No                                                                                  |                                                                                     |
| Adj Sat Flow, veh/h/ln                                             | 1870                                                                              | 1870                                                                              | 1870                                                                              | 1870                                                                              | 1870                                                                              | 1870                                                                              | 1870                                                                               | 1870                                                                                | 1870                                                                                | 1870                                                                                | 1870                                                                                | 1870                                                                                |
| Adj Flow Rate, veh/h                                               | 32                                                                                | 474                                                                               | 234                                                                               | 104                                                                               | 357                                                                               | 4                                                                                 | 152                                                                                | 2                                                                                   | 67                                                                                  | 18                                                                                  | 3                                                                                   | 27                                                                                  |
| Peak Hour Factor                                                   | 0.92                                                                              | 0.92                                                                              | 0.92                                                                              | 0.92                                                                              | 0.92                                                                              | 0.92                                                                              | 0.92                                                                               | 0.92                                                                                | 0.92                                                                                | 0.92                                                                                | 0.92                                                                                | 0.92                                                                                |
| Percent Heavy Veh, %                                               | 2                                                                                 | 2                                                                                 | 2                                                                                 | 2                                                                                 | 2                                                                                 | 2                                                                                 | 2                                                                                  | 2                                                                                   | 2                                                                                   | 2                                                                                   | 2                                                                                   | 2                                                                                   |
| Cap, veh/h                                                         | 718                                                                               | 2151                                                                              | 960                                                                               | 559                                                                               | 2243                                                                              | 25                                                                                | 346                                                                                | 369                                                                                 | 313                                                                                 | 73                                                                                  | 11                                                                                  | 44                                                                                  |
| Arrive On Green                                                    | 0.03                                                                              | 0.61                                                                              | 0.61                                                                              | 0.05                                                                              | 0.62                                                                              | 0.62                                                                              | 0.10                                                                               | 0.20                                                                                | 0.20                                                                                | 0.05                                                                                | 0.05                                                                                | 0.05                                                                                |
| Sat Flow, veh/h                                                    | 1781                                                                              | 3554                                                                              | 1585                                                                              | 1781                                                                              | 3600                                                                              | 40                                                                                | 1781                                                                               | 1870                                                                                | 1585                                                                                | 460                                                                                 | 210                                                                                 | 860                                                                                 |
| Grp Volume(v), veh/h                                               | 32                                                                                | 474                                                                               | 234                                                                               | 104                                                                               | 176                                                                               | 185                                                                               | 152                                                                                | 2                                                                                   | 67                                                                                  | 48                                                                                  | 0                                                                                   | 0                                                                                   |
| Grp Sat Flow(s),veh/h/ln                                           | 1781                                                                              | 1777                                                                              | 1585                                                                              | 1781                                                                              | 1777                                                                              | 1863                                                                              | 1781                                                                               | 1870                                                                                | 1585                                                                                | 1530                                                                                | 0                                                                                   | 0                                                                                   |
| Q Serve(g_s), s                                                    | 0.7                                                                               | 6.1                                                                               | 6.8                                                                               | 2.2                                                                               | 4.1                                                                               | 4.2                                                                               | 7.8                                                                                | 0.1                                                                                 | 3.5                                                                                 | 2.1                                                                                 | 0.0                                                                                 | 0.0                                                                                 |
| Cycle Q Clear(g_c), s                                              | 0.7                                                                               | 6.1                                                                               | 6.8                                                                               | 2.2                                                                               | 4.1                                                                               | 4.2                                                                               | 7.8                                                                                | 0.1                                                                                 | 3.5                                                                                 | 3.0                                                                                 | 0.0                                                                                 | 0.0                                                                                 |
| Prop In Lane                                                       | 1.00                                                                              |                                                                                   | 1.00                                                                              | 1.00                                                                              |                                                                                   | 0.02                                                                              | 1.00                                                                               |                                                                                     | 1.00                                                                                | 0.37                                                                                |                                                                                     | 0.56                                                                                |
| Lane Grp Cap(c), veh/h                                             | 718                                                                               | 2151                                                                              | 960                                                                               | 559                                                                               | 1107                                                                              | 1161                                                                              | 346                                                                                | 369                                                                                 | 313                                                                                 | 127                                                                                 | 0                                                                                   | 0                                                                                   |
| V/C Ratio(X)                                                       | 0.04                                                                              | 0.22                                                                              | 0.24                                                                              | 0.19                                                                              | 0.16                                                                              | 0.16                                                                              | 0.44                                                                               | 0.01                                                                                | 0.21                                                                                | 0.38                                                                                | 0.00                                                                                | 0.00                                                                                |
| Avail Cap(c_a), veh/h                                              | 790                                                                               | 2151                                                                              | 960                                                                               | 600                                                                               | 1107                                                                              | 1161                                                                              | 369                                                                                | 468                                                                                 | 396                                                                                 | 186                                                                                 | 0                                                                                   | 0                                                                                   |
| HCM Platoon Ratio                                                  | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                               | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                |
| Upstream Filter(I)                                                 | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                               | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 0.00                                                                                | 0.00                                                                                |
| Uniform Delay (d), s/veh                                           | 6.8                                                                               | 9.0                                                                               | 9.1                                                                               | 6.6                                                                               | 7.9                                                                               | 7.9                                                                               | 37.9                                                                               | 32.2                                                                                | 33.6                                                                                | 46.5                                                                                | 0.0                                                                                 | 0.0                                                                                 |
| Incr Delay (d2), s/veh                                             | 0.0                                                                               | 0.2                                                                               | 0.6                                                                               | 0.2                                                                               | 0.3                                                                               | 0.3                                                                               | 0.9                                                                                | 0.0                                                                                 | 0.3                                                                                 | 1.8                                                                                 | 0.0                                                                                 | 0.0                                                                                 |
| Initial Q Delay(d3),s/veh                                          | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               | 0.0                                                                                | 0.0                                                                                 | 0.0                                                                                 | 0.0                                                                                 | 0.0                                                                                 | 0.0                                                                                 |
| %ile BackOfQ(50%),veh/ln                                           | 0.2                                                                               | 2.1                                                                               | 2.2                                                                               | 0.7                                                                               | 1.4                                                                               | 1.5                                                                               | 3.4                                                                                | 0.0                                                                                 | 1.3                                                                                 | 1.2                                                                                 | 0.0                                                                                 | 0.0                                                                                 |
| Unsig. Movement Delay, s/veh                                       |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| LnGrp Delay(d),s/veh                                               | 6.8                                                                               | 9.2                                                                               | 9.7                                                                               | 6.8                                                                               | 8.2                                                                               | 8.2                                                                               | 38.8                                                                               | 32.2                                                                                | 34.0                                                                                | 48.3                                                                                | 0.0                                                                                 | 0.0                                                                                 |
| LnGrp LOS                                                          | A                                                                                 | A                                                                                 | A                                                                                 | A                                                                                 | A                                                                                 | A                                                                                 | D                                                                                  | C                                                                                   | C                                                                                   | D                                                                                   | A                                                                                   | A                                                                                   |
| Approach Vol, veh/h                                                |                                                                                   | 740                                                                               |                                                                                   |                                                                                   | 465                                                                               |                                                                                   |                                                                                    | 221                                                                                 |                                                                                     |                                                                                     | 48                                                                                  |                                                                                     |
| Approach Delay, s/veh                                              |                                                                                   | 9.3                                                                               |                                                                                   |                                                                                   | 7.9                                                                               |                                                                                   |                                                                                    | 37.3                                                                                |                                                                                     |                                                                                     | 48.3                                                                                |                                                                                     |
| Approach LOS                                                       |                                                                                   | A                                                                                 |                                                                                   |                                                                                   | A                                                                                 |                                                                                   |                                                                                    | D                                                                                   |                                                                                     |                                                                                     | D                                                                                   |                                                                                     |
| Timer - Assigned Phs                                               |                                                                                   | 2                                                                                 | 3                                                                                 | 4                                                                                 | 5                                                                                 | 6                                                                                 | 7                                                                                  | 8                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Phs Duration (G+Y+Rc), s                                           |                                                                                   | 24.7                                                                              | 9.7                                                                               | 65.5                                                                              | 14.7                                                                              | 10.1                                                                              | 7.9                                                                                | 67.3                                                                                |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Change Period (Y+Rc), s                                            |                                                                                   | 5.0                                                                               | 5.0                                                                               | 5.0                                                                               | 5.0                                                                               | 5.0                                                                               | 5.0                                                                                | 5.0                                                                                 |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Max Green Setting (Gmax), s                                        |                                                                                   | 25.0                                                                              | 7.0                                                                               | 53.0                                                                              | 11.0                                                                              | 9.0                                                                               | 7.0                                                                                | 53.0                                                                                |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Max Q Clear Time (g_c+I1), s                                       |                                                                                   | 5.5                                                                               | 4.2                                                                               | 8.8                                                                               | 9.8                                                                               | 5.0                                                                               | 2.7                                                                                | 6.2                                                                                 |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Green Ext Time (p_c), s                                            |                                                                                   | 0.1                                                                               | 0.1                                                                               | 3.9                                                                               | 0.0                                                                               | 0.0                                                                               | 0.0                                                                                | 2.0                                                                                 |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Intersection Summary                                               |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| HCM 6th Ctrl Delay                                                 |                                                                                   |                                                                                   | 14.3                                                                              |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| HCM 6th LOS                                                        |                                                                                   |                                                                                   | B                                                                                 |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Notes                                                              |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| User approved pedestrian interval to be less than phase max green. |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |

HCM 6th TWSC  
2: Idylwood St & Crystal Valley Pkwy

2028 Total  
PM Peak - Signal at #1

| Intersection             |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |       |        |      |                                                                                     |
|--------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------|--------|------|-------------------------------------------------------------------------------------|
| Int Delay, s/veh         | 1.9                                                                               |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |       |        |      |                                                                                     |
| Movement                 | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | WBR                                                                               | NBL                                                                               | NBT                                                                               | NBR   | SBL    | SBT  | SBR                                                                                 |
| Lane Configurations      |  |  |  |  |  |  |  |  |       |        |      |  |
| Traffic Vol, veh/h       | 41                                                                                | 432                                                                               | 42                                                                                | 18                                                                                | 375                                                                               | 28                                                                                | 23                                                                                | 2                                                                                 | 10    | 0      | 0    | 27                                                                                  |
| Future Vol, veh/h        | 41                                                                                | 432                                                                               | 42                                                                                | 18                                                                                | 375                                                                               | 28                                                                                | 23                                                                                | 2                                                                                 | 10    | 0      | 0    | 27                                                                                  |
| Conflicting Peds, #/hr   | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0     | 0      | 0    | 0                                                                                   |
| Sign Control             | Free                                                                              | Free                                                                              | Free                                                                              | Free                                                                              | Free                                                                              | Free                                                                              | Stop                                                                              | Stop                                                                              | Stop  | Stop   | Stop | Stop                                                                                |
| RT Channelized           | -                                                                                 | -                                                                                 | None                                                                              | -                                                                                 | -                                                                                 | None                                                                              | -                                                                                 | -                                                                                 | None  | -      | -    | None                                                                                |
| Storage Length           | 255                                                                               | -                                                                                 | -                                                                                 | 225                                                                               | -                                                                                 | 315                                                                               | -                                                                                 | -                                                                                 | -     | -      | -    | 0                                                                                   |
| Veh in Median Storage, # | -                                                                                 | 0                                                                                 | -                                                                                 | -                                                                                 | 0                                                                                 | -                                                                                 | -                                                                                 | 0                                                                                 | -     | -      | 0    | -                                                                                   |
| Grade, %                 | -                                                                                 | 0                                                                                 | -                                                                                 | -                                                                                 | 0                                                                                 | -                                                                                 | -                                                                                 | 0                                                                                 | -     | -      | 0    | -                                                                                   |
| Peak Hour Factor         | 83                                                                                | 83                                                                                | 83                                                                                | 83                                                                                | 83                                                                                | 83                                                                                | 83                                                                                | 83                                                                                | 83    | 83     | 83   | 83                                                                                  |
| Heavy Vehicles, %        | 2                                                                                 | 2                                                                                 | 2                                                                                 | 2                                                                                 | 2                                                                                 | 2                                                                                 | 2                                                                                 | 2                                                                                 | 2     | 2      | 2    | 2                                                                                   |
| Mvmt Flow                | 49                                                                                | 520                                                                               | 51                                                                                | 22                                                                                | 452                                                                               | 34                                                                                | 28                                                                                | 2                                                                                 | 12    | 0      | 0    | 33                                                                                  |
| Major/Minor              | Major1                                                                            |                                                                                   |                                                                                   | Major2                                                                            |                                                                                   |                                                                                   | Minor1                                                                            |                                                                                   |       | Minor2 |      |                                                                                     |
| Conflicting Flow All     | 486                                                                               | 0                                                                                 | 0                                                                                 | 571                                                                               | 0                                                                                 | 0                                                                                 | 1148                                                                              | 1148                                                                              | 520   | -      | -    | 452                                                                                 |
| Stage 1                  | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | 618                                                                               | 618                                                                               | -     | -      | -    | -                                                                                   |
| Stage 2                  | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | 530                                                                               | 530                                                                               | -     | -      | -    | -                                                                                   |
| Critical Hdwy            | 4.12                                                                              | -                                                                                 | -                                                                                 | 4.12                                                                              | -                                                                                 | -                                                                                 | 7.12                                                                              | 6.52                                                                              | 6.22  | -      | -    | 6.22                                                                                |
| Critical Hdwy Stg 1      | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | 6.12                                                                              | 5.52                                                                              | -     | -      | -    | -                                                                                   |
| Critical Hdwy Stg 2      | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | 6.12                                                                              | 5.52                                                                              | -     | -      | -    | -                                                                                   |
| Follow-up Hdwy           | 2.218                                                                             | -                                                                                 | -                                                                                 | 2.218                                                                             | -                                                                                 | -                                                                                 | 3.518                                                                             | 4.018                                                                             | 3.318 | -      | -    | 3.318                                                                               |
| Pot Cap-1 Maneuver       | 1077                                                                              | -                                                                                 | -                                                                                 | 986                                                                               | -                                                                                 | -                                                                                 | 155                                                                               | 169                                                                               | 682   | 0      | 0    | 608                                                                                 |
| Stage 1                  | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | 542                                                                               | 498                                                                               | -     | 0      | 0    | -                                                                                   |
| Stage 2                  | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | 533                                                                               | 527                                                                               | -     | 0      | 0    | -                                                                                   |
| Platoon blocked, %       | -                                                                                 | -                                                                                 | -                                                                                 | 1                                                                                 | -                                                                                 | -                                                                                 | 1                                                                                 | 1                                                                                 | 1     | -      | -    | -                                                                                   |
| Mov Cap-1 Maneuver       | 1077                                                                              | -                                                                                 | -                                                                                 | 986                                                                               | -                                                                                 | -                                                                                 | 139                                                                               | 158                                                                               | 682   | -      | -    | 608                                                                                 |
| Mov Cap-2 Maneuver       | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | 139                                                                               | 158                                                                               | -     | -      | -    | -                                                                                   |
| Stage 1                  | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | 517                                                                               | 476                                                                               | -     | -      | -    | -                                                                                   |
| Stage 2                  | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | 493                                                                               | 515                                                                               | -     | -      | -    | -                                                                                   |
| Approach                 | EB                                                                                |                                                                                   |                                                                                   | WB                                                                                |                                                                                   |                                                                                   | NB                                                                                |                                                                                   |       | SB     |      |                                                                                     |
| HCM Control Delay, s     | 0.7                                                                               |                                                                                   |                                                                                   | 0.4                                                                               |                                                                                   |                                                                                   | 29.1                                                                              |                                                                                   |       | 11.3   |      |                                                                                     |
| HCM LOS                  |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   | D                                                                                 |                                                                                   |       | B      |      |                                                                                     |
| Minor Lane/Major Mvmt    | NBLn1                                                                             | NBLn2                                                                             | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | WBR                                                                               | SBLn1 |        |      |                                                                                     |
| Capacity (veh/h)         | 139                                                                               | 439                                                                               | 1077                                                                              | -                                                                                 | -                                                                                 | 986                                                                               | -                                                                                 | -                                                                                 | 608   |        |      |                                                                                     |
| HCM Lane V/C Ratio       | 0.199                                                                             | 0.033                                                                             | 0.046                                                                             | -                                                                                 | -                                                                                 | 0.022                                                                             | -                                                                                 | -                                                                                 | 0.054 |        |      |                                                                                     |
| HCM Control Delay (s)    | 37.2                                                                              | 13.5                                                                              | 8.5                                                                               | -                                                                                 | -                                                                                 | 8.7                                                                               | -                                                                                 | -                                                                                 | 11.3  |        |      |                                                                                     |
| HCM Lane LOS             | E                                                                                 | B                                                                                 | A                                                                                 | -                                                                                 | -                                                                                 | A                                                                                 | -                                                                                 | -                                                                                 | B     |        |      |                                                                                     |
| HCM 95th %tile Q(veh)    | 0.7                                                                               | 0.1                                                                               | 0.1                                                                               | -                                                                                 | -                                                                                 | 0.1                                                                               | -                                                                                 | -                                                                                 | 0.2   |        |      |                                                                                     |

HCM 6th AWSC  
3: Lake Gulch Rd & Crystal Valley Pkwy

2028 Total  
PM Peak - Signal at #1

| Intersection              |      |
|---------------------------|------|
| Intersection Delay, s/veh | 11.6 |
| Intersection LOS          | B    |

| Movement            | EBL                                                                               | EBR                                                                               | NBL                                                                               | NBT                                                                               | SBT                                                                               | SBR                                                                               |
|---------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|
| Lane Configurations |  |  |  |  |  |  |
| Traffic Vol, veh/h  | 202                                                                               | 45                                                                                | 40                                                                                | 30                                                                                | 60                                                                                | 320                                                                               |
| Future Vol, veh/h   | 202                                                                               | 45                                                                                | 40                                                                                | 30                                                                                | 60                                                                                | 320                                                                               |
| Peak Hour Factor    | 0.88                                                                              | 0.88                                                                              | 0.88                                                                              | 0.88                                                                              | 0.88                                                                              | 0.88                                                                              |
| Heavy Vehicles, %   | 2                                                                                 | 2                                                                                 | 2                                                                                 | 2                                                                                 | 2                                                                                 | 2                                                                                 |
| Mvmt Flow           | 230                                                                               | 51                                                                                | 45                                                                                | 34                                                                                | 68                                                                                | 364                                                                               |
| Number of Lanes     | 1                                                                                 | 1                                                                                 | 1                                                                                 | 1                                                                                 | 1                                                                                 | 1                                                                                 |

| Approach                   | EB   | NB  | SB   |
|----------------------------|------|-----|------|
| Opposing Approach          |      | SB  | NB   |
| Opposing Lanes             | 0    | 2   | 2    |
| Conflicting Approach Left  | SB   | EB  |      |
| Conflicting Lanes Left     | 2    | 2   | 0    |
| Conflicting Approach Right | NB   |     | EB   |
| Conflicting Lanes Right    | 2    | 0   | 2    |
| HCM Control Delay          | 12.3 | 9.4 | 11.5 |
| HCM LOS                    | B    | A   | B    |

| Lane                   | NBLn1 | NBLn2 | EBLn1 | EBLn2 | SBLn1 | SBLn2 |
|------------------------|-------|-------|-------|-------|-------|-------|
| Vol Left, %            | 100%  | 0%    | 100%  | 0%    | 0%    | 0%    |
| Vol Thru, %            | 0%    | 100%  | 0%    | 0%    | 100%  | 0%    |
| Vol Right, %           | 0%    | 0%    | 0%    | 100%  | 0%    | 100%  |
| Sign Control           | Stop  | Stop  | Stop  | Stop  | Stop  | Stop  |
| Traffic Vol by Lane    | 40    | 30    | 202   | 45    | 60    | 320   |
| LT Vol                 | 40    | 0     | 202   | 0     | 0     | 0     |
| Through Vol            | 0     | 30    | 0     | 0     | 60    | 0     |
| RT Vol                 | 0     | 0     | 0     | 45    | 0     | 320   |
| Lane Flow Rate         | 45    | 34    | 230   | 51    | 68    | 364   |
| Geometry Grp           | 5     | 5     | 5     | 5     | 5     | 5     |
| Degree of Util (X)     | 0.081 | 0.056 | 0.402 | 0.072 | 0.104 | 0.482 |
| Departure Headway (Hd) | 6.436 | 5.929 | 6.305 | 5.098 | 5.474 | 4.768 |
| Convergence, Y/N       | Yes   | Yes   | Yes   | Yes   | Yes   | Yes   |
| Cap                    | 560   | 608   | 574   | 707   | 650   | 749   |
| Service Time           | 4.136 | 3.629 | 4.008 | 2.801 | 3.25  | 2.544 |
| HCM Lane V/C Ratio     | 0.08  | 0.056 | 0.401 | 0.072 | 0.105 | 0.486 |
| HCM Control Delay      | 9.7   | 9     | 13.2  | 8.2   | 8.9   | 12    |
| HCM Lane LOS           | A     | A     | B     | A     | A     | B     |
| HCM 95th-tile Q        | 0.3   | 0.2   | 1.9   | 0.2   | 0.3   | 2.6   |

HCM 6th Roundabout  
1: Loop Rd & Crystal Valley Pkwy

2028 Total  
AM Peak - RA at #1

| Intersection                |       |       |       |       |       |       |
|-----------------------------|-------|-------|-------|-------|-------|-------|
| Intersection Delay, s/veh   | 5.5   |       |       |       |       |       |
| Intersection LOS            | A     |       |       |       |       |       |
| Approach                    | EB    |       | WB    |       | NB    | SB    |
| Entry Lanes                 | 2     |       | 2     |       | 1     | 1     |
| Conflicting Circle Lanes    | 2     |       | 2     |       | 2     | 2     |
| Adj Approach Flow, veh/h    | 389   |       | 564   |       | 323   | 43    |
| Demand Flow Rate, veh/h     | 397   |       | 575   |       | 330   | 43    |
| Vehicles Circulating, veh/h | 67    |       | 240   |       | 314   | 805   |
| Vehicles Exiting, veh/h     | 781   |       | 404   |       | 150   | 10    |
| Ped Vol Crossing Leg, #/h   | 0     |       | 0     |       | 0     | 0     |
| Ped Cap Adj                 | 1.000 |       | 1.000 |       | 1.000 | 1.000 |
| Approach Delay, s/veh       | 4.5   |       | 5.7   |       | 6.4   | 5.7   |
| Approach LOS                | A     |       | A     |       | A     | A     |
| Lane                        | Left  | Right | Left  | Right | Left  | Left  |
| Designated Moves            | LT    | R     | LT    | TR    | LTR   | LTR   |
| Assumed Moves               | LT    | R     | LT    | TR    | LTR   | LTR   |
| RT Channelized              |       |       |       |       |       |       |
| Lane Util                   | 0.743 | 0.257 | 0.470 | 0.530 | 1.000 | 1.000 |
| Follow-Up Headway, s        | 2.667 | 2.535 | 2.667 | 2.535 | 2.535 | 2.535 |
| Critical Headway, s         | 4.645 | 4.328 | 4.645 | 4.328 | 4.328 | 4.328 |
| Entry Flow, veh/h           | 295   | 102   | 270   | 305   | 330   | 43    |
| Cap Entry Lane, veh/h       | 1269  | 1341  | 1082  | 1158  | 1087  | 716   |
| Entry HV Adj Factor         | 0.981 | 0.980 | 0.981 | 0.979 | 0.979 | 0.999 |
| Flow Entry, veh/h           | 289   | 100   | 265   | 299   | 323   | 43    |
| Cap Entry, veh/h            | 1245  | 1315  | 1062  | 1134  | 1064  | 715   |
| V/C Ratio                   | 0.232 | 0.076 | 0.249 | 0.263 | 0.303 | 0.060 |
| Control Delay, s/veh        | 4.9   | 3.3   | 5.8   | 5.6   | 6.4   | 5.7   |
| LOS                         | A     | A     | A     | A     | A     | A     |
| 95th %tile Queue, veh       | 1     | 0     | 1     | 1     | 1     | 0     |

HCM 6th TWSC  
2: Idylwood St & Crystal Valley Pkwy

2028 Total  
AM Peak - RA at #1

| Intersection             |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |        |      |                                                                                     |
|--------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|------------------------------------------------------------------------------------|--------|------|-------------------------------------------------------------------------------------|
| Int Delay, s/veh         | 2.7                                                                               |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |        |      |                                                                                     |
| Movement                 | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | WBR                                                                               | NBL                                                                               | NBT                                                                               | NBR                                                                                | SBL    | SBT  | SBR                                                                                 |
| Lane Configurations      |  |  |  |  |  |  |  |  |  |        |      |  |
| Traffic Vol, veh/h       | 14                                                                                | 347                                                                               | 16                                                                                | 7                                                                                 | 450                                                                               | 9                                                                                 | 45                                                                                | 1                                                                                 | 20                                                                                 | 0      | 0    | 42                                                                                  |
| Future Vol, veh/h        | 14                                                                                | 347                                                                               | 16                                                                                | 7                                                                                 | 450                                                                               | 9                                                                                 | 45                                                                                | 1                                                                                 | 20                                                                                 | 0      | 0    | 42                                                                                  |
| Conflicting Peds, #/hr   | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                  | 0      | 0    | 0                                                                                   |
| Sign Control             | Free                                                                              | Free                                                                              | Free                                                                              | Free                                                                              | Free                                                                              | Free                                                                              | Stop                                                                              | Stop                                                                              | Stop                                                                               | Stop   | Stop | Stop                                                                                |
| RT Channelized           | -                                                                                 | -                                                                                 | None                                                                              | -                                                                                 | -                                                                                 | None                                                                              | -                                                                                 | -                                                                                 | None                                                                               | -      | -    | None                                                                                |
| Storage Length           | 255                                                                               | -                                                                                 | 285                                                                               | 225                                                                               | -                                                                                 | 315                                                                               | -                                                                                 | -                                                                                 | -                                                                                  | -      | -    | 0                                                                                   |
| Veh in Median Storage, # | -                                                                                 | 0                                                                                 | -                                                                                 | -                                                                                 | 0                                                                                 | -                                                                                 | -                                                                                 | 0                                                                                 | -                                                                                  | -      | 0    | -                                                                                   |
| Grade, %                 | -                                                                                 | 0                                                                                 | -                                                                                 | -                                                                                 | 0                                                                                 | -                                                                                 | -                                                                                 | 0                                                                                 | -                                                                                  | -      | 0    | -                                                                                   |
| Peak Hour Factor         | 80                                                                                | 80                                                                                | 80                                                                                | 80                                                                                | 80                                                                                | 80                                                                                | 80                                                                                | 80                                                                                | 80                                                                                 | 80     | 80   | 80                                                                                  |
| Heavy Vehicles, %        | 2                                                                                 | 2                                                                                 | 2                                                                                 | 2                                                                                 | 2                                                                                 | 2                                                                                 | 2                                                                                 | 2                                                                                 | 2                                                                                  | 2      | 2    | 2                                                                                   |
| Mvmt Flow                | 18                                                                                | 434                                                                               | 20                                                                                | 9                                                                                 | 563                                                                               | 11                                                                                | 56                                                                                | 1                                                                                 | 25                                                                                 | 0      | 0    | 53                                                                                  |
| Major/Minor              | Major1                                                                            |                                                                                   |                                                                                   | Major2                                                                            |                                                                                   |                                                                                   | Minor1                                                                            |                                                                                   |                                                                                    | Minor2 |      |                                                                                     |
| Conflicting Flow All     | 574                                                                               | 0                                                                                 | 0                                                                                 | 454                                                                               | 0                                                                                 | 0                                                                                 | 1083                                                                              | 1062                                                                              | 434                                                                                | -      | -    | 563                                                                                 |
| Stage 1                  | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | 470                                                                               | 470                                                                               | -                                                                                  | -      | -    | -                                                                                   |
| Stage 2                  | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | 613                                                                               | 592                                                                               | -                                                                                  | -      | -    | -                                                                                   |
| Critical Hdwy            | 4.12                                                                              | -                                                                                 | -                                                                                 | 4.12                                                                              | -                                                                                 | -                                                                                 | 7.12                                                                              | 6.52                                                                              | 6.22                                                                               | -      | -    | 6.22                                                                                |
| Critical Hdwy Stg 1      | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | 6.12                                                                              | 5.52                                                                              | -                                                                                  | -      | -    | -                                                                                   |
| Critical Hdwy Stg 2      | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | 6.12                                                                              | 5.52                                                                              | -                                                                                  | -      | -    | -                                                                                   |
| Follow-up Hdwy           | 2.218                                                                             | -                                                                                 | -                                                                                 | 2.218                                                                             | -                                                                                 | -                                                                                 | 3.518                                                                             | 4.018                                                                             | 3.318                                                                              | -      | -    | 3.318                                                                               |
| Pot Cap-1 Maneuver       | 999                                                                               | -                                                                                 | -                                                                                 | 1107                                                                              | -                                                                                 | -                                                                                 | 195                                                                               | 223                                                                               | 622                                                                                | 0      | 0    | 526                                                                                 |
| Stage 1                  | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | 574                                                                               | 560                                                                               | -                                                                                  | 0      | 0    | -                                                                                   |
| Stage 2                  | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | 480                                                                               | 494                                                                               | -                                                                                  | 0      | 0    | -                                                                                   |
| Platoon blocked, %       | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                  | -      | -    | -                                                                                   |
| Mov Cap-1 Maneuver       | 999                                                                               | -                                                                                 | -                                                                                 | 1107                                                                              | -                                                                                 | -                                                                                 | 172                                                                               | 217                                                                               | 622                                                                                | -      | -    | 526                                                                                 |
| Mov Cap-2 Maneuver       | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | 172                                                                               | 217                                                                               | -                                                                                  | -      | -    | -                                                                                   |
| Stage 1                  | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | 564                                                                               | 550                                                                               | -                                                                                  | -      | -    | -                                                                                   |
| Stage 2                  | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | 429                                                                               | 490                                                                               | -                                                                                  | -      | -    | -                                                                                   |
| Approach                 | EB                                                                                |                                                                                   |                                                                                   | WB                                                                                |                                                                                   |                                                                                   | NB                                                                                |                                                                                   |                                                                                    | SB     |      |                                                                                     |
| HCM Control Delay, s     | 0.3                                                                               |                                                                                   |                                                                                   | 0.1                                                                               |                                                                                   |                                                                                   | 28.1                                                                              |                                                                                   |                                                                                    | 12.6   |      |                                                                                     |
| HCM LOS                  |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   | D                                                                                 |                                                                                   |                                                                                    | B      |      |                                                                                     |
| Minor Lane/Major Mvmt    | NBLn1                                                                             | NBLn2                                                                             | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | WBR                                                                               | SBLn1                                                                              |        |      |                                                                                     |
| Capacity (veh/h)         | 172                                                                               | 571                                                                               | 999                                                                               | -                                                                                 | -                                                                                 | 1107                                                                              | -                                                                                 | -                                                                                 | 526                                                                                |        |      |                                                                                     |
| HCM Lane V/C Ratio       | 0.327                                                                             | 0.046                                                                             | 0.018                                                                             | -                                                                                 | -                                                                                 | 0.008                                                                             | -                                                                                 | -                                                                                 | 0.1                                                                                |        |      |                                                                                     |
| HCM Control Delay (s)    | 35.8                                                                              | 11.6                                                                              | 8.7                                                                               | -                                                                                 | -                                                                                 | 8.3                                                                               | -                                                                                 | -                                                                                 | 12.6                                                                               |        |      |                                                                                     |
| HCM Lane LOS             | E                                                                                 | B                                                                                 | A                                                                                 | -                                                                                 | -                                                                                 | A                                                                                 | -                                                                                 | -                                                                                 | B                                                                                  |        |      |                                                                                     |
| HCM 95th %tile Q(veh)    | 1.3                                                                               | 0.1                                                                               | 0.1                                                                               | -                                                                                 | -                                                                                 | 0                                                                                 | -                                                                                 | -                                                                                 | 0.3                                                                                |        |      |                                                                                     |

HCM 6th AWSC  
3: Lake Gulch Rd & Crystal Valley Pkwy

2028 Total  
AM Peak - RA at #1

| Intersection              |    |
|---------------------------|----|
| Intersection Delay, s/veh | 12 |
| Intersection LOS          | B  |

| Movement            | EBL                                                                               | EBR                                                                               | NBL                                                                               | NBT                                                                               | SBT                                                                               | SBR                                                                               |
|---------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|
| Lane Configurations |  |  |  |  |  |  |
| Traffic Vol, veh/h  | 307                                                                               | 20                                                                                | 25                                                                                | 65                                                                                | 30                                                                                | 156                                                                               |
| Future Vol, veh/h   | 307                                                                               | 20                                                                                | 25                                                                                | 65                                                                                | 30                                                                                | 156                                                                               |
| Peak Hour Factor    | 0.93                                                                              | 0.93                                                                              | 0.93                                                                              | 0.93                                                                              | 0.93                                                                              | 0.93                                                                              |
| Heavy Vehicles, %   | 2                                                                                 | 2                                                                                 | 2                                                                                 | 2                                                                                 | 2                                                                                 | 2                                                                                 |
| Mvmt Flow           | 330                                                                               | 22                                                                                | 27                                                                                | 70                                                                                | 32                                                                                | 168                                                                               |
| Number of Lanes     | 1                                                                                 | 1                                                                                 | 1                                                                                 | 1                                                                                 | 1                                                                                 | 1                                                                                 |

| Approach                   | EB   | NB  | SB  |
|----------------------------|------|-----|-----|
| Opposing Approach          |      | SB  | NB  |
| Opposing Lanes             | 0    | 2   | 2   |
| Conflicting Approach Left  | SB   | EB  |     |
| Conflicting Lanes Left     | 2    | 2   | 0   |
| Conflicting Approach Right | NB   |     | EB  |
| Conflicting Lanes Right    | 2    | 0   | 2   |
| HCM Control Delay          | 14.4 | 9.3 | 9.2 |
| HCM LOS                    | B    | A   | A   |

| Lane                   | NBLn1 | NBLn2 | EBLn1 | EBLn2 | SBLn1 | SBLn2 |
|------------------------|-------|-------|-------|-------|-------|-------|
| Vol Left, %            | 100%  | 0%    | 100%  | 0%    | 0%    | 0%    |
| Vol Thru, %            | 0%    | 100%  | 0%    | 0%    | 100%  | 0%    |
| Vol Right, %           | 0%    | 0%    | 0%    | 100%  | 0%    | 100%  |
| Sign Control           | Stop  | Stop  | Stop  | Stop  | Stop  | Stop  |
| Traffic Vol by Lane    | 25    | 65    | 307   | 20    | 30    | 156   |
| LT Vol                 | 25    | 0     | 307   | 0     | 0     | 0     |
| Through Vol            | 0     | 65    | 0     | 0     | 30    | 0     |
| RT Vol                 | 0     | 0     | 0     | 20    | 0     | 156   |
| Lane Flow Rate         | 27    | 70    | 330   | 22    | 32    | 168   |
| Geometry Grp           | 5     | 5     | 5     | 5     | 5     | 5     |
| Degree of Util (X)     | 0.047 | 0.113 | 0.529 | 0.027 | 0.051 | 0.233 |
| Departure Headway (Hd) | 6.307 | 5.8   | 5.764 | 4.56  | 5.699 | 4.991 |
| Convergence, Y/N       | Yes   | Yes   | Yes   | Yes   | Yes   | Yes   |
| Cap                    | 565   | 614   | 621   | 777   | 625   | 715   |
| Service Time           | 4.082 | 3.575 | 3.536 | 2.332 | 3.461 | 2.753 |
| HCM Lane V/C Ratio     | 0.048 | 0.114 | 0.531 | 0.028 | 0.051 | 0.235 |
| HCM Control Delay      | 9.4   | 9.3   | 14.9  | 7.5   | 8.8   | 9.3   |
| HCM Lane LOS           | A     | A     | B     | A     | A     | A     |
| HCM 95th-tile Q        | 0.1   | 0.4   | 3.1   | 0.1   | 0.2   | 0.9   |

HCM 6th Roundabout  
1: Loop Rd & Crystal Valley Pkwy

2028 Total  
PM Peak - RA at #1

| Intersection                |       |       |       |       |       |       |
|-----------------------------|-------|-------|-------|-------|-------|-------|
| Intersection Delay, s/veh   | 6.0   |       |       |       |       |       |
| Intersection LOS            | A     |       |       |       |       |       |
| Approach                    | EB    |       | WB    |       | NB    | SB    |
| Entry Lanes                 | 2     |       | 2     |       | 1     | 1     |
| Conflicting Circle Lanes    | 2     |       | 2     |       | 2     | 2     |
| Adj Approach Flow, veh/h    | 740   |       | 465   |       | 221   | 48    |
| Demand Flow Rate, veh/h     | 755   |       | 474   |       | 225   | 49    |
| Vehicles Circulating, veh/h | 127   |       | 190   |       | 534   | 625   |
| Vehicles Exiting, veh/h     | 547   |       | 569   |       | 348   | 39    |
| Ped Vol Crossing Leg, #/h   | 0     |       | 0     |       | 0     | 0     |
| Ped Cap Adj                 | 1.000 |       | 1.000 |       | 1.000 | 1.000 |
| Approach Delay, s/veh       | 6.5   |       | 4.9   |       | 6.7   | 5.0   |
| Approach LOS                | A     |       | A     |       | A     | A     |
| Lane                        | Left  | Right | Left  | Right | Left  | Left  |
| Designated Moves            | LT    | R     | LT    | TR    | LTR   | LTR   |
| Assumed Moves               | LT    | R     | LT    | TR    | LTR   | LTR   |
| RT Channelized              |       |       |       |       |       |       |
| Lane Util                   | 0.683 | 0.317 | 0.470 | 0.530 | 1.000 | 1.000 |
| Follow-Up Headway, s        | 2.667 | 2.535 | 2.667 | 2.535 | 2.535 | 2.535 |
| Critical Headway, s         | 4.645 | 4.328 | 4.645 | 4.328 | 4.328 | 4.328 |
| Entry Flow, veh/h           | 516   | 239   | 223   | 251   | 225   | 49    |
| Cap Entry Lane, veh/h       | 1201  | 1275  | 1133  | 1208  | 902   | 835   |
| Entry HV Adj Factor         | 0.980 | 0.979 | 0.980 | 0.982 | 0.982 | 0.978 |
| Flow Entry, veh/h           | 506   | 234   | 218   | 246   | 221   | 48    |
| Cap Entry, veh/h            | 1177  | 1248  | 1110  | 1186  | 886   | 817   |
| V/C Ratio                   | 0.430 | 0.187 | 0.197 | 0.208 | 0.249 | 0.059 |
| Control Delay, s/veh        | 7.5   | 4.5   | 5.0   | 4.9   | 6.7   | 5.0   |
| LOS                         | A     | A     | A     | A     | A     | A     |
| 95th %tile Queue, veh       | 2     | 1     | 1     | 1     | 1     | 0     |

HCM 6th TWSC  
2: Idylwood St & Crystal Valley Pkwy

2028 Total  
PM Peak - RA at #1

| Intersection             |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |        |      |                                                                                     |
|--------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|------------------------------------------------------------------------------------|--------|------|-------------------------------------------------------------------------------------|
| Int Delay, s/veh         | 1.7                                                                               |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |        |      |                                                                                     |
| Movement                 | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | WBR                                                                               | NBL                                                                               | NBT                                                                               | NBR                                                                                | SBL    | SBT  | SBR                                                                                 |
| Lane Configurations      |  |  |  |  |  |  |  |  |  |        |      |  |
| Traffic Vol, veh/h       | 41                                                                                | 420                                                                               | 42                                                                                | 18                                                                                | 375                                                                               | 28                                                                                | 23                                                                                | 2                                                                                 | 10                                                                                 | 0      | 0    | 27                                                                                  |
| Future Vol, veh/h        | 41                                                                                | 420                                                                               | 42                                                                                | 18                                                                                | 375                                                                               | 28                                                                                | 23                                                                                | 2                                                                                 | 10                                                                                 | 0      | 0    | 27                                                                                  |
| Conflicting Peds, #/hr   | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                  | 0      | 0    | 0                                                                                   |
| Sign Control             | Free                                                                              | Free                                                                              | Free                                                                              | Free                                                                              | Free                                                                              | Free                                                                              | Stop                                                                              | Stop                                                                              | Stop                                                                               | Stop   | Stop | Stop                                                                                |
| RT Channelized           | -                                                                                 | -                                                                                 | None                                                                              | -                                                                                 | -                                                                                 | None                                                                              | -                                                                                 | -                                                                                 | None                                                                               | -      | -    | None                                                                                |
| Storage Length           | 255                                                                               | -                                                                                 | 285                                                                               | 225                                                                               | -                                                                                 | 315                                                                               | -                                                                                 | -                                                                                 | -                                                                                  | -      | -    | 0                                                                                   |
| Veh in Median Storage, # | -                                                                                 | 0                                                                                 | -                                                                                 | -                                                                                 | 0                                                                                 | -                                                                                 | -                                                                                 | 0                                                                                 | -                                                                                  | -      | 0    | -                                                                                   |
| Grade, %                 | -                                                                                 | 0                                                                                 | -                                                                                 | -                                                                                 | 0                                                                                 | -                                                                                 | -                                                                                 | 0                                                                                 | -                                                                                  | -      | 0    | -                                                                                   |
| Peak Hour Factor         | 83                                                                                | 83                                                                                | 83                                                                                | 83                                                                                | 83                                                                                | 83                                                                                | 83                                                                                | 83                                                                                | 83                                                                                 | 83     | 83   | 83                                                                                  |
| Heavy Vehicles, %        | 2                                                                                 | 2                                                                                 | 2                                                                                 | 2                                                                                 | 2                                                                                 | 2                                                                                 | 2                                                                                 | 2                                                                                 | 2                                                                                  | 2      | 2    | 2                                                                                   |
| Mvmt Flow                | 49                                                                                | 506                                                                               | 51                                                                                | 22                                                                                | 452                                                                               | 34                                                                                | 28                                                                                | 2                                                                                 | 12                                                                                 | 0      | 0    | 33                                                                                  |
| Major/Minor              | Major1                                                                            |                                                                                   |                                                                                   | Major2                                                                            |                                                                                   |                                                                                   | Minor1                                                                            |                                                                                   |                                                                                    | Minor2 |      |                                                                                     |
| Conflicting Flow All     | 486                                                                               | 0                                                                                 | 0                                                                                 | 557                                                                               | 0                                                                                 | 0                                                                                 | 1134                                                                              | 1134                                                                              | 506                                                                                | -      | -    | 452                                                                                 |
| Stage 1                  | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | 604                                                                               | 604                                                                               | -                                                                                  | -      | -    | -                                                                                   |
| Stage 2                  | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | 530                                                                               | 530                                                                               | -                                                                                  | -      | -    | -                                                                                   |
| Critical Hdwy            | 4.12                                                                              | -                                                                                 | -                                                                                 | 4.12                                                                              | -                                                                                 | -                                                                                 | 7.12                                                                              | 6.52                                                                              | 6.22                                                                               | -      | -    | 6.22                                                                                |
| Critical Hdwy Stg 1      | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | 6.12                                                                              | 5.52                                                                              | -                                                                                  | -      | -    | -                                                                                   |
| Critical Hdwy Stg 2      | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | 6.12                                                                              | 5.52                                                                              | -                                                                                  | -      | -    | -                                                                                   |
| Follow-up Hdwy           | 2.218                                                                             | -                                                                                 | -                                                                                 | 2.218                                                                             | -                                                                                 | -                                                                                 | 3.518                                                                             | 4.018                                                                             | 3.318                                                                              | -      | -    | 3.318                                                                               |
| Pot Cap-1 Maneuver       | 1077                                                                              | -                                                                                 | -                                                                                 | 1014                                                                              | -                                                                                 | -                                                                                 | 180                                                                               | 203                                                                               | 566                                                                                | 0      | 0    | 608                                                                                 |
| Stage 1                  | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | 485                                                                               | 488                                                                               | -                                                                                  | 0      | 0    | -                                                                                   |
| Stage 2                  | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | 533                                                                               | 527                                                                               | -                                                                                  | 0      | 0    | -                                                                                   |
| Platoon blocked, %       | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                  | -      | -    | -                                                                                   |
| Mov Cap-1 Maneuver       | 1077                                                                              | -                                                                                 | -                                                                                 | 1014                                                                              | -                                                                                 | -                                                                                 | 162                                                                               | 190                                                                               | 566                                                                                | -      | -    | 608                                                                                 |
| Mov Cap-2 Maneuver       | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | 162                                                                               | 190                                                                               | -                                                                                  | -      | -    | -                                                                                   |
| Stage 1                  | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | 463                                                                               | 466                                                                               | -                                                                                  | -      | -    | -                                                                                   |
| Stage 2                  | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | 494                                                                               | 515                                                                               | -                                                                                  | -      | -    | -                                                                                   |
| Approach                 | EB                                                                                |                                                                                   |                                                                                   | WB                                                                                |                                                                                   |                                                                                   | NB                                                                                |                                                                                   |                                                                                    | SB     |      |                                                                                     |
| HCM Control Delay, s     | 0.7                                                                               |                                                                                   |                                                                                   | 0.4                                                                               |                                                                                   |                                                                                   | 25.6                                                                              |                                                                                   |                                                                                    | 11.3   |      |                                                                                     |
| HCM LOS                  |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   | D                                                                                 |                                                                                   |                                                                                    | B      |      |                                                                                     |
| Minor Lane/Major Mvmt    | NBLn1                                                                             | NBLn2                                                                             | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | WBR                                                                               | SBLn1                                                                              |        |      |                                                                                     |
| Capacity (veh/h)         | 162                                                                               | 426                                                                               | 1077                                                                              | -                                                                                 | -                                                                                 | 1014                                                                              | -                                                                                 | -                                                                                 | 608                                                                                |        |      |                                                                                     |
| HCM Lane V/C Ratio       | 0.171                                                                             | 0.034                                                                             | 0.046                                                                             | -                                                                                 | -                                                                                 | 0.021                                                                             | -                                                                                 | -                                                                                 | 0.054                                                                              |        |      |                                                                                     |
| HCM Control Delay (s)    | 31.8                                                                              | 13.7                                                                              | 8.5                                                                               | -                                                                                 | -                                                                                 | 8.6                                                                               | -                                                                                 | -                                                                                 | 11.3                                                                               |        |      |                                                                                     |
| HCM Lane LOS             | D                                                                                 | B                                                                                 | A                                                                                 | -                                                                                 | -                                                                                 | A                                                                                 | -                                                                                 | -                                                                                 | B                                                                                  |        |      |                                                                                     |
| HCM 95th %tile Q(veh)    | 0.6                                                                               | 0.1                                                                               | 0.1                                                                               | -                                                                                 | -                                                                                 | 0.1                                                                               | -                                                                                 | -                                                                                 | 0.2                                                                                |        |      |                                                                                     |

HCM 6th AWSC  
3: Lake Gulch Rd & Crystal Valley Pkwy

2028 Total  
PM Peak - RA at #1

| Intersection              |      |
|---------------------------|------|
| Intersection Delay, s/veh | 11.6 |
| Intersection LOS          | B    |

| Movement            | EBL                                                                               | EBR                                                                               | NBL                                                                               | NBT                                                                               | SBT                                                                               | SBR                                                                               |
|---------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|
| Lane Configurations |  |  |  |  |  |  |
| Traffic Vol, veh/h  | 202                                                                               | 45                                                                                | 40                                                                                | 30                                                                                | 60                                                                                | 320                                                                               |
| Future Vol, veh/h   | 202                                                                               | 45                                                                                | 40                                                                                | 30                                                                                | 60                                                                                | 320                                                                               |
| Peak Hour Factor    | 0.88                                                                              | 0.88                                                                              | 0.88                                                                              | 0.88                                                                              | 0.88                                                                              | 0.88                                                                              |
| Heavy Vehicles, %   | 2                                                                                 | 2                                                                                 | 2                                                                                 | 2                                                                                 | 2                                                                                 | 2                                                                                 |
| Mvmt Flow           | 230                                                                               | 51                                                                                | 45                                                                                | 34                                                                                | 68                                                                                | 364                                                                               |
| Number of Lanes     | 1                                                                                 | 1                                                                                 | 1                                                                                 | 1                                                                                 | 1                                                                                 | 1                                                                                 |

| Approach                   | EB   | NB  | SB   |
|----------------------------|------|-----|------|
| Opposing Approach          |      | SB  | NB   |
| Opposing Lanes             | 0    | 2   | 2    |
| Conflicting Approach Left  | SB   | EB  |      |
| Conflicting Lanes Left     | 2    | 2   | 0    |
| Conflicting Approach Right | NB   |     | EB   |
| Conflicting Lanes Right    | 2    | 0   | 2    |
| HCM Control Delay          | 12.3 | 9.4 | 11.5 |
| HCM LOS                    | B    | A   | B    |

| Lane                   | NBLn1 | NBLn2 | EBLn1 | EBLn2 | SBLn1 | SBLn2 |
|------------------------|-------|-------|-------|-------|-------|-------|
| Vol Left, %            | 100%  | 0%    | 100%  | 0%    | 0%    | 0%    |
| Vol Thru, %            | 0%    | 100%  | 0%    | 0%    | 100%  | 0%    |
| Vol Right, %           | 0%    | 0%    | 0%    | 100%  | 0%    | 100%  |
| Sign Control           | Stop  | Stop  | Stop  | Stop  | Stop  | Stop  |
| Traffic Vol by Lane    | 40    | 30    | 202   | 45    | 60    | 320   |
| LT Vol                 | 40    | 0     | 202   | 0     | 0     | 0     |
| Through Vol            | 0     | 30    | 0     | 0     | 60    | 0     |
| RT Vol                 | 0     | 0     | 0     | 45    | 0     | 320   |
| Lane Flow Rate         | 45    | 34    | 230   | 51    | 68    | 364   |
| Geometry Grp           | 5     | 5     | 5     | 5     | 5     | 5     |
| Degree of Util (X)     | 0.081 | 0.056 | 0.402 | 0.072 | 0.104 | 0.482 |
| Departure Headway (Hd) | 6.436 | 5.929 | 6.305 | 5.098 | 5.474 | 4.768 |
| Convergence, Y/N       | Yes   | Yes   | Yes   | Yes   | Yes   | Yes   |
| Cap                    | 560   | 608   | 574   | 707   | 650   | 749   |
| Service Time           | 4.136 | 3.629 | 4.008 | 2.801 | 3.25  | 2.544 |
| HCM Lane V/C Ratio     | 0.08  | 0.056 | 0.401 | 0.072 | 0.105 | 0.486 |
| HCM Control Delay      | 9.7   | 9     | 13.2  | 8.2   | 8.9   | 12    |
| HCM Lane LOS           | A     | A     | B     | A     | A     | B     |
| HCM 95th-tile Q        | 0.3   | 0.2   | 1.9   | 0.2   | 0.3   | 2.6   |

HCM 6th TWSC  
1: Loop Rd & Crystal Valley Pkwy

2046 Background  
AM Peak

| Intersection               |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |      |                                                                                   |                                                                                   |                                                                                   |        |                                                                                   |                                                                                   |
|----------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|--------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|
| Int Delay, s/veh           | 24                                                                                |                                                                                   |                                                                                   |                                                                                   |                                                                                   |      |                                                                                   |                                                                                   |                                                                                   |        |                                                                                   |                                                                                   |
| Movement                   | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | WBR  | NBL                                                                               | NBT                                                                               | NBR                                                                               | SBL    | SBT                                                                               | SBR                                                                               |
| Lane Configurations        |  |  |  |  |  |      |  |  |  |        |  |  |
| Traffic Vol, veh/h         | 1                                                                                 | 385                                                                               | 115                                                                               | 50                                                                                | 650                                                                               | 1    | 255                                                                               | 1                                                                                 | 105                                                                               | 1      | 2                                                                                 | 1                                                                                 |
| Future Vol, veh/h          | 1                                                                                 | 385                                                                               | 115                                                                               | 50                                                                                | 650                                                                               | 1    | 255                                                                               | 1                                                                                 | 105                                                                               | 1      | 2                                                                                 | 1                                                                                 |
| Conflicting Peds, #/hr     | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0    | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0      | 0                                                                                 | 0                                                                                 |
| Sign Control               | Free                                                                              | Free                                                                              | Free                                                                              | Free                                                                              | Free                                                                              | Free | Stop                                                                              | Stop                                                                              | Stop                                                                              | Stop   | Stop                                                                              | Stop                                                                              |
| RT Channelized             | -                                                                                 | -                                                                                 | None                                                                              | -                                                                                 | -                                                                                 | None | -                                                                                 | -                                                                                 | None                                                                              | -      | -                                                                                 | None                                                                              |
| Storage Length             | 280                                                                               | -                                                                                 | 280                                                                               | 410                                                                               | -                                                                                 | -    | 315                                                                               | -                                                                                 | 0                                                                                 | -      | -                                                                                 | -                                                                                 |
| Veh in Median Storage, #   | -                                                                                 | 0                                                                                 | -                                                                                 | -                                                                                 | 0                                                                                 | -    | -                                                                                 | 0                                                                                 | -                                                                                 | -      | 0                                                                                 | -                                                                                 |
| Grade, %                   | -                                                                                 | 0                                                                                 | -                                                                                 | -                                                                                 | 0                                                                                 | -    | -                                                                                 | 0                                                                                 | -                                                                                 | -      | 0                                                                                 | -                                                                                 |
| Peak Hour Factor           | 95                                                                                | 95                                                                                | 95                                                                                | 95                                                                                | 95                                                                                | 95   | 95                                                                                | 95                                                                                | 95                                                                                | 95     | 95                                                                                | 95                                                                                |
| Heavy Vehicles, %          | 2                                                                                 | 2                                                                                 | 2                                                                                 | 2                                                                                 | 2                                                                                 | 2    | 2                                                                                 | 2                                                                                 | 2                                                                                 | 2      | 2                                                                                 | 2                                                                                 |
| Mvmt Flow                  | 1                                                                                 | 405                                                                               | 121                                                                               | 53                                                                                | 684                                                                               | 1    | 268                                                                               | 1                                                                                 | 111                                                                               | 1      | 2                                                                                 | 1                                                                                 |
|                            |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |      |                                                                                   |                                                                                   |                                                                                   |        |                                                                                   |                                                                                   |
| Major/Minor                | Major1                                                                            |                                                                                   |                                                                                   | Major2                                                                            |                                                                                   |      | Minor1                                                                            |                                                                                   |                                                                                   | Minor2 |                                                                                   |                                                                                   |
| Conflicting Flow All       | 685                                                                               | 0                                                                                 | 0                                                                                 | 526                                                                               | 0                                                                                 | 0    | 856                                                                               | 1198                                                                              | 203                                                                               | 996    | 1319                                                                              | 343                                                                               |
| Stage 1                    | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -    | 407                                                                               | 407                                                                               | -                                                                                 | 791    | 791                                                                               | -                                                                                 |
| Stage 2                    | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -    | 449                                                                               | 791                                                                               | -                                                                                 | 205    | 528                                                                               | -                                                                                 |
| Critical Hdwy              | 4.14                                                                              | -                                                                                 | -                                                                                 | 4.14                                                                              | -                                                                                 | -    | 7.54                                                                              | 6.54                                                                              | 6.94                                                                              | 7.54   | 6.54                                                                              | 6.94                                                                              |
| Critical Hdwy Stg 1        | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -    | 6.54                                                                              | 5.54                                                                              | -                                                                                 | 6.54   | 5.54                                                                              | -                                                                                 |
| Critical Hdwy Stg 2        | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -    | 6.54                                                                              | 5.54                                                                              | -                                                                                 | 6.54   | 5.54                                                                              | -                                                                                 |
| Follow-up Hdwy             | 2.22                                                                              | -                                                                                 | -                                                                                 | 2.22                                                                              | -                                                                                 | -    | 3.52                                                                              | 4.02                                                                              | 3.32                                                                              | 3.52   | 4.02                                                                              | 3.32                                                                              |
| Pot Cap-1 Maneuver         | 904                                                                               | -                                                                                 | -                                                                                 | 1037                                                                              | -                                                                                 | -    | ~ 251                                                                             | 184                                                                               | 804                                                                               | 199    | 156                                                                               | 653                                                                               |
| Stage 1                    | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -    | 592                                                                               | 596                                                                               | -                                                                                 | 349    | 399                                                                               | -                                                                                 |
| Stage 2                    | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -    | 559                                                                               | 399                                                                               | -                                                                                 | 778    | 526                                                                               | -                                                                                 |
| Platoon blocked, %         |                                                                                   | -                                                                                 | -                                                                                 |                                                                                   | -                                                                                 | -    |                                                                                   |                                                                                   |                                                                                   |        |                                                                                   |                                                                                   |
| Mov Cap-1 Maneuver         | 904                                                                               | -                                                                                 | -                                                                                 | 1037                                                                              | -                                                                                 | -    | ~ 238                                                                             | 174                                                                               | 804                                                                               | 164    | 148                                                                               | 653                                                                               |
| Mov Cap-2 Maneuver         | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -    | ~ 238                                                                             | 174                                                                               | -                                                                                 | 164    | 148                                                                               | -                                                                                 |
| Stage 1                    | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -    | 591                                                                               | 595                                                                               | -                                                                                 | 349    | 379                                                                               | -                                                                                 |
| Stage 2                    | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -    | 527                                                                               | 379                                                                               | -                                                                                 | 669    | 525                                                                               | -                                                                                 |
|                            |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |      |                                                                                   |                                                                                   |                                                                                   |        |                                                                                   |                                                                                   |
| Approach                   | EB                                                                                |                                                                                   |                                                                                   | WB                                                                                |                                                                                   |      | NB                                                                                |                                                                                   |                                                                                   | SB     |                                                                                   |                                                                                   |
| HCM Control Delay, s       | 0                                                                                 |                                                                                   |                                                                                   | 0.6                                                                               |                                                                                   |      | 102.7                                                                             |                                                                                   |                                                                                   | 24.5   |                                                                                   |                                                                                   |
| HCM LOS                    |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |      | F                                                                                 |                                                                                   |                                                                                   | C      |                                                                                   |                                                                                   |
|                            |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |      |                                                                                   |                                                                                   |                                                                                   |        |                                                                                   |                                                                                   |
| Minor Lane/Major Mvmt      | NBLn1                                                                             | NBLn2                                                                             | NBLn3                                                                             | EBL                                                                               | EBT                                                                               | EBR  | WBL                                                                               | WBT                                                                               | WBR                                                                               | SBLn1  |                                                                                   |                                                                                   |
| Capacity (veh/h)           | 238                                                                               | 174                                                                               | 804                                                                               | 904                                                                               | -                                                                                 | -    | 1037                                                                              | -                                                                                 | -                                                                                 | 189    |                                                                                   |                                                                                   |
| HCM Lane V/C Ratio         | 1.128                                                                             | 0.006                                                                             | 0.137                                                                             | 0.001                                                                             | -                                                                                 | -    | 0.051                                                                             | -                                                                                 | -                                                                                 | 0.022  |                                                                                   |                                                                                   |
| HCM Control Delay (s)      | 141.1                                                                             | 25.8                                                                              | 10.2                                                                              | 9                                                                                 | -                                                                                 | -    | 8.7                                                                               | -                                                                                 | -                                                                                 | 24.5   |                                                                                   |                                                                                   |
| HCM Lane LOS               | F                                                                                 | D                                                                                 | B                                                                                 | A                                                                                 | -                                                                                 | -    | A                                                                                 | -                                                                                 | -                                                                                 | C      |                                                                                   |                                                                                   |
| HCM 95th %tile Q(veh)      | 12.1                                                                              | 0                                                                                 | 0.5                                                                               | 0                                                                                 | -                                                                                 | -    | 0.2                                                                               | -                                                                                 | -                                                                                 | 0.1    |                                                                                   |                                                                                   |
| Notes                      |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |      |                                                                                   |                                                                                   |                                                                                   |        |                                                                                   |                                                                                   |
| ~: Volume exceeds capacity |                                                                                   | \$: Delay exceeds 300s                                                            |                                                                                   |                                                                                   | +: Computation Not Defined                                                        |      |                                                                                   |                                                                                   | *: All major volume in platoon                                                    |        |                                                                                   |                                                                                   |

HCM 6th TWSC  
2: Idylwood St & Crystal Valley Pkwy

2046 Background  
AM Peak

| Intersection             |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |      |      |                                                                                     |
|--------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|------|------|-------------------------------------------------------------------------------------|
| Int Delay, s/veh         | 3.4                                                                               |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |      |      |                                                                                     |
| Movement                 | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | WBR                                                                               | NBL                                                                               | NBT                                                                               | NBR                                                                               | SBL  | SBT  | SBR                                                                                 |
| Lane Configurations      |  |  |  |  |  |  |  |  |  |      |      |  |
| Traffic Vol, veh/h       | 6                                                                                 | 470                                                                               | 16                                                                                | 7                                                                                 | 635                                                                               | 3                                                                                 | 45                                                                                | 1                                                                                 | 20                                                                                | 0    | 0    | 22                                                                                  |
| Future Vol, veh/h        | 6                                                                                 | 470                                                                               | 16                                                                                | 7                                                                                 | 635                                                                               | 3                                                                                 | 45                                                                                | 1                                                                                 | 20                                                                                | 0    | 0    | 22                                                                                  |
| Conflicting Peds, #/hr   | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0    | 0    | 0                                                                                   |
| Sign Control             | Free                                                                              | Free                                                                              | Free                                                                              | Free                                                                              | Free                                                                              | Free                                                                              | Stop                                                                              | Stop                                                                              | Stop                                                                              | Stop | Stop | Stop                                                                                |
| RT Channelized           | -                                                                                 | -                                                                                 | None                                                                              | -                                                                                 | -                                                                                 | None                                                                              | -                                                                                 | -                                                                                 | None                                                                              | -    | -    | None                                                                                |
| Storage Length           | 255                                                                               | -                                                                                 | 285                                                                               | 225                                                                               | -                                                                                 | 315                                                                               | -                                                                                 | -                                                                                 | -                                                                                 | -    | -    | 0                                                                                   |
| Veh in Median Storage, # | -                                                                                 | 0                                                                                 | -                                                                                 | -                                                                                 | 0                                                                                 | -                                                                                 | -                                                                                 | 0                                                                                 | -                                                                                 | -    | 0    | -                                                                                   |
| Grade, %                 | -                                                                                 | 0                                                                                 | -                                                                                 | -                                                                                 | 0                                                                                 | -                                                                                 | -                                                                                 | 0                                                                                 | -                                                                                 | -    | 0    | -                                                                                   |
| Peak Hour Factor         | 80                                                                                | 80                                                                                | 80                                                                                | 80                                                                                | 80                                                                                | 80                                                                                | 80                                                                                | 80                                                                                | 80                                                                                | 80   | 80   | 80                                                                                  |
| Heavy Vehicles, %        | 2                                                                                 | 2                                                                                 | 2                                                                                 | 2                                                                                 | 2                                                                                 | 2                                                                                 | 2                                                                                 | 2                                                                                 | 2                                                                                 | 2    | 2    | 2                                                                                   |
| Mvmt Flow                | 8                                                                                 | 588                                                                               | 20                                                                                | 9                                                                                 | 794                                                                               | 4                                                                                 | 56                                                                                | 1                                                                                 | 25                                                                                | 0    | 0    | 28                                                                                  |

| Major/Minor          | Major1 |   |   | Major2 |   |   | Minor1 |       |       | Minor2 |   |       |
|----------------------|--------|---|---|--------|---|---|--------|-------|-------|--------|---|-------|
| Conflicting Flow All | 798    | 0 | 0 | 608    | 0 | 0 | 1432   | 1420  | 588   | -      | - | 794   |
| Stage 1              | -      | - | - | -      | - | - | 604    | 604   | -     | -      | - | -     |
| Stage 2              | -      | - | - | -      | - | - | 828    | 816   | -     | -      | - | -     |
| Critical Hdwy        | 4.12   | - | - | 4.12   | - | - | 7.12   | 6.52  | 6.22  | -      | - | 6.22  |
| Critical Hdwy Stg 1  | -      | - | - | -      | - | - | 6.12   | 5.52  | -     | -      | - | -     |
| Critical Hdwy Stg 2  | -      | - | - | -      | - | - | 6.12   | 5.52  | -     | -      | - | -     |
| Follow-up Hdwy       | 2.218  | - | - | 2.218  | - | - | 3.518  | 4.018 | 3.318 | -      | - | 3.318 |
| Pot Cap-1 Maneuver   | 824    | - | - | 970    | - | - | 112    | 136   | 509   | 0      | 0 | 388   |
| Stage 1              | -      | - | - | -      | - | - | 485    | 488   | -     | 0      | 0 | -     |
| Stage 2              | -      | - | - | -      | - | - | 365    | 391   | -     | 0      | 0 | -     |
| Platoon blocked, %   | -      | - | - | -      | - | - | -      | -     | -     | -      | - | -     |
| Mov Cap-1 Maneuver   | 824    | - | - | 970    | - | - | 103    | 133   | 509   | -      | - | 388   |
| Mov Cap-2 Maneuver   | -      | - | - | -      | - | - | 103    | 133   | -     | -      | - | -     |
| Stage 1              | -      | - | - | -      | - | - | 480    | 483   | -     | -      | - | -     |
| Stage 2              | -      | - | - | -      | - | - | 336    | 387   | -     | -      | - | -     |

| Approach             | EB  |  |  | WB  |  |  | NB   |  |  | SB |  |  |
|----------------------|-----|--|--|-----|--|--|------|--|--|----|--|--|
| HCM Control Delay, s | 0.1 |  |  | 0.1 |  |  | 55.9 |  |  | 15 |  |  |
| HCM LOS              |     |  |  |     |  |  | F    |  |  | C  |  |  |

| Minor Lane/Major Mvmt | NBLn1 | NBLn2 | EBL   | EBT | EBR | WBL   | WBT | WBR | SBLn1 |
|-----------------------|-------|-------|-------|-----|-----|-------|-----|-----|-------|
| Capacity (veh/h)      | 103   | 449   | 824   | -   | -   | 970   | -   | -   | 388   |
| HCM Lane V/C Ratio    | 0.546 | 0.058 | 0.009 | -   | -   | 0.009 | -   | -   | 0.071 |
| HCM Control Delay (s) | 75.7  | 13.5  | 9.4   | -   | -   | 8.7   | -   | -   | 15    |
| HCM Lane LOS          | F     | B     | A     | -   | -   | A     | -   | -   | C     |
| HCM 95th %tile Q(veh) | 2.5   | 0.2   | 0     | -   | -   | 0     | -   | -   | 0.2   |

# HCM 6th AWSC

## 3: Lake Gulch Rd & Crystal Valley Pkwy

2046 Background  
AM Peak

### Intersection

Intersection Delay, s/veh 18.9  
Intersection LOS C

| Movement            | EBL                                                                               | EBR                                                                               | NBL                                                                               | NBT                                                                               | SBT                                                                               | SBR                                                                               |
|---------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|
| Lane Configurations |  |  |  |  |  |  |
| Traffic Vol, veh/h  | 415                                                                               | 30                                                                                | 35                                                                                | 95                                                                                | 45                                                                                | 215                                                                               |
| Future Vol, veh/h   | 415                                                                               | 30                                                                                | 35                                                                                | 95                                                                                | 45                                                                                | 215                                                                               |
| Peak Hour Factor    | 0.93                                                                              | 0.93                                                                              | 0.93                                                                              | 0.93                                                                              | 0.93                                                                              | 0.93                                                                              |
| Heavy Vehicles, %   | 2                                                                                 | 2                                                                                 | 2                                                                                 | 2                                                                                 | 2                                                                                 | 2                                                                                 |
| Mvmt Flow           | 446                                                                               | 32                                                                                | 38                                                                                | 102                                                                               | 48                                                                                | 231                                                                               |
| Number of Lanes     | 1                                                                                 | 1                                                                                 | 1                                                                                 | 1                                                                                 | 1                                                                                 | 1                                                                                 |

| Approach                   | EB   | NB   | SB   |
|----------------------------|------|------|------|
| Opposing Approach          |      | SB   | NB   |
| Opposing Lanes             | 0    | 2    | 2    |
| Conflicting Approach Left  | SB   | EB   |      |
| Conflicting Lanes Left     | 2    | 2    | 0    |
| Conflicting Approach Right | NB   |      | EB   |
| Conflicting Lanes Right    | 2    | 0    | 2    |
| HCM Control Delay          | 25.8 | 10.7 | 11.2 |
| HCM LOS                    | D    | B    | B    |

| Lane                   | NBLn1 | NBLn2 | EBLn1 | EBLn2 | SBLn1 | SBLn2 |
|------------------------|-------|-------|-------|-------|-------|-------|
| Vol Left, %            | 100%  | 0%    | 100%  | 0%    | 0%    | 0%    |
| Vol Thru, %            | 0%    | 100%  | 0%    | 0%    | 100%  | 0%    |
| Vol Right, %           | 0%    | 0%    | 0%    | 100%  | 0%    | 100%  |
| Sign Control           | Stop  | Stop  | Stop  | Stop  | Stop  | Stop  |
| Traffic Vol by Lane    | 35    | 95    | 415   | 30    | 45    | 215   |
| LT Vol                 | 35    | 0     | 415   | 0     | 0     | 0     |
| Through Vol            | 0     | 95    | 0     | 0     | 45    | 0     |
| RT Vol                 | 0     | 0     | 0     | 30    | 0     | 215   |
| Lane Flow Rate         | 38    | 102   | 446   | 32    | 48    | 231   |
| Geometry Grp           | 5     | 5     | 5     | 5     | 5     | 5     |
| Degree of Util (X)     | 0.074 | 0.185 | 0.773 | 0.045 | 0.085 | 0.361 |
| Departure Headway (Hd) | 7.041 | 6.531 | 6.24  | 5.032 | 6.341 | 5.629 |
| Convergence, Y/N       | Yes   | Yes   | Yes   | Yes   | Yes   | Yes   |
| Cap                    | 508   | 549   | 580   | 712   | 565   | 638   |
| Service Time           | 4.79  | 4.28  | 3.965 | 2.757 | 4.084 | 3.371 |
| HCM Lane V/C Ratio     | 0.075 | 0.186 | 0.769 | 0.045 | 0.085 | 0.362 |
| HCM Control Delay      | 10.4  | 10.8  | 27.1  | 8     | 9.7   | 11.5  |
| HCM Lane LOS           | B     | B     | D     | A     | A     | B     |
| HCM 95th-tile Q        | 0.2   | 0.7   | 7.1   | 0.1   | 0.3   | 1.6   |

HCM 6th TWSC  
1: Loop Rd & Crystal Valley Pkwy

2046 Background  
PM Peak

| Intersection             |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |      |                                                                                   |                                                                                   |                                                                                   |      |                                                                                   |                                                                                   |
|--------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|
| Int Delay, s/veh         | 32.6                                                                              |                                                                                   |                                                                                   |                                                                                   |                                                                                   |      |                                                                                   |                                                                                   |                                                                                   |      |                                                                                   |                                                                                   |
| Movement                 | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | WBR  | NBL                                                                               | NBT                                                                               | NBR                                                                               | SBL  | SBT                                                                               | SBR                                                                               |
| Lane Configurations      |  |  |  |  |  |      |  |  |  |      |  |  |
| Traffic Vol, veh/h       | 8                                                                                 | 585                                                                               | 255                                                                               | 115                                                                               | 450                                                                               | 4    | 170                                                                               | 1                                                                                 | 70                                                                                | 5    | 2                                                                                 | 12                                                                                |
| Future Vol, veh/h        | 8                                                                                 | 585                                                                               | 255                                                                               | 115                                                                               | 450                                                                               | 4    | 170                                                                               | 1                                                                                 | 70                                                                                | 5    | 2                                                                                 | 12                                                                                |
| Conflicting Peds, #/hr   | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0    | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0    | 0                                                                                 | 0                                                                                 |
| Sign Control             | Free                                                                              | Free                                                                              | Free                                                                              | Free                                                                              | Free                                                                              | Free | Stop                                                                              | Stop                                                                              | Stop                                                                              | Stop | Stop                                                                              | Stop                                                                              |
| RT Channelized           | -                                                                                 | -                                                                                 | None                                                                              | -                                                                                 | -                                                                                 | None | -                                                                                 | -                                                                                 | None                                                                              | -    | -                                                                                 | None                                                                              |
| Storage Length           | 280                                                                               | -                                                                                 | 280                                                                               | 410                                                                               | -                                                                                 | -    | 315                                                                               | -                                                                                 | 0                                                                                 | -    | -                                                                                 | -                                                                                 |
| Veh in Median Storage, # | -                                                                                 | 0                                                                                 | -                                                                                 | -                                                                                 | 0                                                                                 | -    | -                                                                                 | 0                                                                                 | -                                                                                 | -    | 0                                                                                 | -                                                                                 |
| Grade, %                 | -                                                                                 | 0                                                                                 | -                                                                                 | -                                                                                 | 0                                                                                 | -    | -                                                                                 | 0                                                                                 | -                                                                                 | -    | 0                                                                                 | -                                                                                 |
| Peak Hour Factor         | 92                                                                                | 92                                                                                | 92                                                                                | 92                                                                                | 92                                                                                | 92   | 92                                                                                | 92                                                                                | 92                                                                                | 92   | 92                                                                                | 92                                                                                |
| Heavy Vehicles, %        | 2                                                                                 | 2                                                                                 | 2                                                                                 | 2                                                                                 | 2                                                                                 | 2    | 2                                                                                 | 2                                                                                 | 2                                                                                 | 2    | 2                                                                                 | 2                                                                                 |
| Mvmt Flow                | 9                                                                                 | 636                                                                               | 277                                                                               | 125                                                                               | 489                                                                               | 4    | 185                                                                               | 1                                                                                 | 76                                                                                | 5    | 2                                                                                 | 13                                                                                |

| Major/Minor          | Major1 |   |   | Major2 |   |   | Minor1 |      |      | Minor2 |      |      |
|----------------------|--------|---|---|--------|---|---|--------|------|------|--------|------|------|
| Conflicting Flow All | 493    | 0 | 0 | 913    | 0 | 0 | 1150   | 1397 | 318  | 1078   | 1672 | 247  |
| Stage 1              | -      | - | - | -      | - | - | 654    | 654  | -    | 741    | 741  | -    |
| Stage 2              | -      | - | - | -      | - | - | 496    | 743  | -    | 337    | 931  | -    |
| Critical Hdwy        | 4.14   | - | - | 4.14   | - | - | 7.54   | 6.54 | 6.94 | 7.54   | 6.54 | 6.94 |
| Critical Hdwy Stg 1  | -      | - | - | -      | - | - | 6.54   | 5.54 | -    | 6.54   | 5.54 | -    |
| Critical Hdwy Stg 2  | -      | - | - | -      | - | - | 6.54   | 5.54 | -    | 6.54   | 5.54 | -    |
| Follow-up Hdwy       | 2.22   | - | - | 2.22   | - | - | 3.52   | 4.02 | 3.32 | 3.52   | 4.02 | 3.32 |
| Pot Cap-1 Maneuver   | 1067   | - | - | 742    | - | - | ~ 153  | 140  | 678  | 173    | 95   | 753  |
| Stage 1              | -      | - | - | -      | - | - | 422    | 461  | -    | 374    | 421  | -    |
| Stage 2              | -      | - | - | -      | - | - | 524    | 420  | -    | 651    | 344  | -    |
| Platoon blocked, %   |        | - | - |        | - | - |        |      |      |        |      |      |
| Mov Cap-1 Maneuver   | 1067   | - | - | 742    | - | - | ~ 127  | 116  | 678  | 132    | 78   | 753  |
| Mov Cap-2 Maneuver   | -      | - | - | -      | - | - | ~ 127  | 116  | -    | 132    | 78   | -    |
| Stage 1              | -      | - | - | -      | - | - | 419    | 457  | -    | 371    | 350  | -    |
| Stage 2              | -      | - | - | -      | - | - | 426    | 349  | -    | 572    | 341  | -    |

| Approach             | EB  | WB  | NB    | SB   |
|----------------------|-----|-----|-------|------|
| HCM Control Delay, s | 0.1 | 2.2 | 219.3 | 21.5 |
| HCM LOS              |     |     | F     | C    |

| Minor Lane/Major Mvmt | NBLn1    | NBLn2 | NBLn3 | EBL   | EBT | EBR | WBL   | WBT | WBR | SBLn1 |
|-----------------------|----------|-------|-------|-------|-----|-----|-------|-----|-----|-------|
| Capacity (veh/h)      | 127      | 116   | 678   | 1067  | -   | -   | 742   | -   | -   | 239   |
| HCM Lane V/C Ratio    | 1.455    | 0.009 | 0.112 | 0.008 | -   | -   | 0.168 | -   | -   | 0.086 |
| HCM Control Delay (s) | \$ 306.1 | 36.3  | 11    | 8.4   | -   | -   | 10.8  | -   | -   | 21.5  |
| HCM Lane LOS          | F        | E     | B     | A     | -   | -   | B     | -   | -   | C     |
| HCM 95th %tile Q(veh) | 12.7     | 0     | 0.4   | 0     | -   | -   | 0.6   | -   | -   | 0.3   |

| Notes                      |                        |                            |                                |
|----------------------------|------------------------|----------------------------|--------------------------------|
| ~: Volume exceeds capacity | \$: Delay exceeds 300s | +: Computation Not Defined | *: All major volume in platoon |

HCM 6th TWSC  
2: Idylwood St & Crystal Valley Pkwy

2046 Background  
PM Peak

| Intersection             |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |        |      |                                                                                     |
|--------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|--------|------|-------------------------------------------------------------------------------------|
| Int Delay, s/veh         | 1.5                                                                               |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |        |      |                                                                                     |
| Movement                 | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | WBR                                                                               | NBL                                                                               | NBT                                                                               | NBR                                                                               | SBL    | SBT  | SBR                                                                                 |
| Lane Configurations      |  |  |  |  |  |  |  |  |  |        |      |  |
| Traffic Vol, veh/h       | 18                                                                                | 600                                                                               | 42                                                                                | 18                                                                                | 535                                                                               | 8                                                                                 | 23                                                                                | 2                                                                                 | 10                                                                                | 0      | 0    | 13                                                                                  |
| Future Vol, veh/h        | 18                                                                                | 600                                                                               | 42                                                                                | 18                                                                                | 535                                                                               | 8                                                                                 | 23                                                                                | 2                                                                                 | 10                                                                                | 0      | 0    | 13                                                                                  |
| Conflicting Peds, #/hr   | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0      | 0    | 0                                                                                   |
| Sign Control             | Free                                                                              | Free                                                                              | Free                                                                              | Free                                                                              | Free                                                                              | Free                                                                              | Stop                                                                              | Stop                                                                              | Stop                                                                              | Stop   | Stop | Stop                                                                                |
| RT Channelized           | -                                                                                 | -                                                                                 | None                                                                              | -                                                                                 | -                                                                                 | None                                                                              | -                                                                                 | -                                                                                 | None                                                                              | -      | -    | None                                                                                |
| Storage Length           | 255                                                                               | -                                                                                 | 285                                                                               | 225                                                                               | -                                                                                 | 315                                                                               | -                                                                                 | -                                                                                 | -                                                                                 | -      | -    | 0                                                                                   |
| Veh in Median Storage, # | -                                                                                 | 0                                                                                 | -                                                                                 | -                                                                                 | 0                                                                                 | -                                                                                 | -                                                                                 | 0                                                                                 | -                                                                                 | -      | 0    | -                                                                                   |
| Grade, %                 | -                                                                                 | 0                                                                                 | -                                                                                 | -                                                                                 | 0                                                                                 | -                                                                                 | -                                                                                 | 0                                                                                 | -                                                                                 | -      | 0    | -                                                                                   |
| Peak Hour Factor         | 83                                                                                | 83                                                                                | 83                                                                                | 83                                                                                | 83                                                                                | 83                                                                                | 83                                                                                | 83                                                                                | 83                                                                                | 83     | 83   | 83                                                                                  |
| Heavy Vehicles, %        | 2                                                                                 | 2                                                                                 | 2                                                                                 | 2                                                                                 | 2                                                                                 | 2                                                                                 | 2                                                                                 | 2                                                                                 | 2                                                                                 | 2      | 2    | 2                                                                                   |
| Mvmt Flow                | 22                                                                                | 723                                                                               | 51                                                                                | 22                                                                                | 645                                                                               | 10                                                                                | 28                                                                                | 2                                                                                 | 12                                                                                | 0      | 0    | 16                                                                                  |
|                          |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |        |      |                                                                                     |
| Major/Minor              | Major1                                                                            |                                                                                   |                                                                                   | Major2                                                                            |                                                                                   |                                                                                   | Minor1                                                                            |                                                                                   |                                                                                   | Minor2 |      |                                                                                     |
| Conflicting Flow All     | 655                                                                               | 0                                                                                 | 0                                                                                 | 774                                                                               | 0                                                                                 | 0                                                                                 | 1469                                                                              | 1466                                                                              | 723                                                                               | -      | -    | 645                                                                                 |
| Stage 1                  | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | 767                                                                               | 767                                                                               | -                                                                                 | -      | -    | -                                                                                   |
| Stage 2                  | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | 702                                                                               | 699                                                                               | -                                                                                 | -      | -    | -                                                                                   |
| Critical Hdwy            | 4.12                                                                              | -                                                                                 | -                                                                                 | 4.12                                                                              | -                                                                                 | -                                                                                 | 7.12                                                                              | 6.52                                                                              | 6.22                                                                              | -      | -    | 6.22                                                                                |
| Critical Hdwy Stg 1      | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | 6.12                                                                              | 5.52                                                                              | -                                                                                 | -      | -    | -                                                                                   |
| Critical Hdwy Stg 2      | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | 6.12                                                                              | 5.52                                                                              | -                                                                                 | -      | -    | -                                                                                   |
| Follow-up Hdwy           | 2.218                                                                             | -                                                                                 | -                                                                                 | 2.218                                                                             | -                                                                                 | -                                                                                 | 3.518                                                                             | 4.018                                                                             | 3.318                                                                             | -      | -    | 3.318                                                                               |
| Pot Cap-1 Maneuver       | 932                                                                               | -                                                                                 | -                                                                                 | 842                                                                               | -                                                                                 | -                                                                                 | 106                                                                               | 128                                                                               | 426                                                                               | 0      | 0    | 472                                                                                 |
| Stage 1                  | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | 395                                                                               | 411                                                                               | -                                                                                 | 0      | 0    | -                                                                                   |
| Stage 2                  | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | 429                                                                               | 442                                                                               | -                                                                                 | 0      | 0    | -                                                                                   |
| Platoon blocked, %       |                                                                                   | -                                                                                 | -                                                                                 |                                                                                   | -                                                                                 | -                                                                                 |                                                                                   |                                                                                   |                                                                                   |        |      |                                                                                     |
| Mov Cap-1 Maneuver       | 932                                                                               | -                                                                                 | -                                                                                 | 842                                                                               | -                                                                                 | -                                                                                 | 99                                                                                | 122                                                                               | 426                                                                               | -      | -    | 472                                                                                 |
| Mov Cap-2 Maneuver       | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | 99                                                                                | 122                                                                               | -                                                                                 | -      | -    | -                                                                                   |
| Stage 1                  | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | 386                                                                               | 401                                                                               | -                                                                                 | -      | -    | -                                                                                   |
| Stage 2                  | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | 404                                                                               | 431                                                                               | -                                                                                 | -      | -    | -                                                                                   |
|                          |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |        |      |                                                                                     |
| Approach                 | EB                                                                                |                                                                                   |                                                                                   | WB                                                                                |                                                                                   |                                                                                   | NB                                                                                |                                                                                   |                                                                                   | SB     |      |                                                                                     |
| HCM Control Delay, s     | 0.2                                                                               |                                                                                   |                                                                                   | 0.3                                                                               |                                                                                   |                                                                                   | 42.1                                                                              |                                                                                   |                                                                                   | 12.9   |      |                                                                                     |
| HCM LOS                  |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   | E                                                                                 |                                                                                   |                                                                                   | B      |      |                                                                                     |
|                          |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |        |      |                                                                                     |
| Minor Lane/Major Mvmt    | NBLn1 NBLn2                                                                       |                                                                                   | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | WBR                                                                               | SBLn1                                                                             |        |      |                                                                                     |
| Capacity (veh/h)         | 99                                                                                | 301                                                                               | 932                                                                               | -                                                                                 | -                                                                                 | 842                                                                               | -                                                                                 | -                                                                                 | 472                                                                               |        |      |                                                                                     |
| HCM Lane V/C Ratio       | 0.28                                                                              | 0.048                                                                             | 0.023                                                                             | -                                                                                 | -                                                                                 | 0.026                                                                             | -                                                                                 | -                                                                                 | 0.033                                                                             |        |      |                                                                                     |
| HCM Control Delay (s)    | 54.9                                                                              | 17.6                                                                              | 9                                                                                 | -                                                                                 | -                                                                                 | 9.4                                                                               | -                                                                                 | -                                                                                 | 12.9                                                                              |        |      |                                                                                     |
| HCM Lane LOS             | F                                                                                 | C                                                                                 | A                                                                                 | -                                                                                 | -                                                                                 | A                                                                                 | -                                                                                 | -                                                                                 | B                                                                                 |        |      |                                                                                     |
| HCM 95th %tile Q(veh)    | 1                                                                                 | 0.2                                                                               | 0.1                                                                               | -                                                                                 | -                                                                                 | 0.1                                                                               | -                                                                                 | -                                                                                 | 0.1                                                                               |        |      |                                                                                     |

# HCM 6th AWSC

## 3: Lake Gulch Rd & Crystal Valley Pkwy

2046 Background  
PM Peak

### Intersection

Intersection Delay, s/veh 16.9  
Intersection LOS C

| Movement            | EBL                                                                               | EBR                                                                               | NBL                                                                               | NBT                                                                               | SBT                                                                               | SBR                                                                               |
|---------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|
| Lane Configurations |  |  |  |  |  |  |
| Traffic Vol, veh/h  | 270                                                                               | 65                                                                                | 55                                                                                | 45                                                                                | 85                                                                                | 425                                                                               |
| Future Vol, veh/h   | 270                                                                               | 65                                                                                | 55                                                                                | 45                                                                                | 85                                                                                | 425                                                                               |
| Peak Hour Factor    | 0.88                                                                              | 0.88                                                                              | 0.88                                                                              | 0.88                                                                              | 0.88                                                                              | 0.88                                                                              |
| Heavy Vehicles, %   | 2                                                                                 | 2                                                                                 | 2                                                                                 | 2                                                                                 | 2                                                                                 | 2                                                                                 |
| Mvmt Flow           | 307                                                                               | 74                                                                                | 63                                                                                | 51                                                                                | 97                                                                                | 483                                                                               |
| Number of Lanes     | 1                                                                                 | 1                                                                                 | 1                                                                                 | 1                                                                                 | 1                                                                                 | 1                                                                                 |

| Approach                   | EB   | NB   | SB   |
|----------------------------|------|------|------|
| Opposing Approach          |      | SB   | NB   |
| Opposing Lanes             | 0    | 2    | 2    |
| Conflicting Approach Left  | SB   | EB   |      |
| Conflicting Lanes Left     | 2    | 2    | 0    |
| Conflicting Approach Right | NB   |      | EB   |
| Conflicting Lanes Right    | 2    | 0    | 2    |
| HCM Control Delay          | 16.8 | 10.4 | 18.2 |
| HCM LOS                    | C    | B    | C    |

| Lane                   | NBLn1 | NBLn2 | EBLn1 | EBLn2 | SBLn1 | SBLn2 |
|------------------------|-------|-------|-------|-------|-------|-------|
| Vol Left, %            | 100%  | 0%    | 100%  | 0%    | 0%    | 0%    |
| Vol Thru, %            | 0%    | 100%  | 0%    | 0%    | 100%  | 0%    |
| Vol Right, %           | 0%    | 0%    | 0%    | 100%  | 0%    | 100%  |
| Sign Control           | Stop  | Stop  | Stop  | Stop  | Stop  | Stop  |
| Traffic Vol by Lane    | 55    | 45    | 270   | 65    | 85    | 425   |
| LT Vol                 | 55    | 0     | 270   | 0     | 0     | 0     |
| Through Vol            | 0     | 45    | 0     | 0     | 85    | 0     |
| RT Vol                 | 0     | 0     | 0     | 65    | 0     | 425   |
| Lane Flow Rate         | 62    | 51    | 307   | 74    | 97    | 483   |
| Geometry Grp           | 5     | 5     | 5     | 5     | 5     | 5     |
| Degree of Util (X)     | 0.123 | 0.093 | 0.582 | 0.115 | 0.161 | 0.709 |
| Departure Headway (Hd) | 7.089 | 6.578 | 6.826 | 5.615 | 5.994 | 5.284 |
| Convergence, Y/N       | Yes   | Yes   | Yes   | Yes   | Yes   | Yes   |
| Cap                    | 505   | 544   | 528   | 638   | 598   | 681   |
| Service Time           | 4.846 | 4.335 | 4.562 | 3.351 | 3.735 | 3.025 |
| HCM Lane V/C Ratio     | 0.123 | 0.094 | 0.581 | 0.116 | 0.162 | 0.709 |
| HCM Control Delay      | 10.8  | 10    | 18.7  | 9.1   | 9.9   | 19.9  |
| HCM Lane LOS           | B     | A     | C     | A     | A     | C     |
| HCM 95th-tile Q        | 0.4   | 0.3   | 3.7   | 0.4   | 0.6   | 5.9   |

# HCM 6th Signalized Intersection Summary

## 1: Loop Rd & Crystal Valley Pkwy

2046 Background

AM Peak - Signal at #1

|                                                                    |  |  |  |  |  |  |  |  |  |  |  |  |
|--------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Movement                                                           | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | WBR                                                                               | NBL                                                                                 | NBT                                                                                 | NBR                                                                                 | SBL                                                                                 | SBT                                                                                 | SBR                                                                                 |
| Lane Configurations                                                |  |  |  |  |  |                                                                                   |  |  |  |                                                                                     |  |  |
| Traffic Volume (veh/h)                                             | 1                                                                                 | 385                                                                               | 115                                                                               | 50                                                                                | 650                                                                               | 1                                                                                 | 255                                                                                 | 1                                                                                   | 105                                                                                 | 1                                                                                   | 2                                                                                   | 1                                                                                   |
| Future Volume (veh/h)                                              | 1                                                                                 | 385                                                                               | 115                                                                               | 50                                                                                | 650                                                                               | 1                                                                                 | 255                                                                                 | 1                                                                                   | 105                                                                                 | 1                                                                                   | 2                                                                                   | 1                                                                                   |
| Initial Q (Qb), veh                                                | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                   | 0                                                                                   | 0                                                                                   | 0                                                                                   | 0                                                                                   | 0                                                                                   |
| Ped-Bike Adj(A_pbT)                                                | 1.00                                                                              |                                                                                   | 1.00                                                                              | 1.00                                                                              |                                                                                   | 1.00                                                                              | 1.00                                                                                |                                                                                     | 1.00                                                                                | 1.00                                                                                |                                                                                     | 1.00                                                                                |
| Parking Bus, Adj                                                   | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                |
| Work Zone On Approach                                              |                                                                                   | No                                                                                |                                                                                   |                                                                                   | No                                                                                |                                                                                   |                                                                                     | No                                                                                  |                                                                                     |                                                                                     | No                                                                                  |                                                                                     |
| Adj Sat Flow, veh/h/ln                                             | 1870                                                                              | 1870                                                                              | 1870                                                                              | 1870                                                                              | 1870                                                                              | 1870                                                                              | 1870                                                                                | 1870                                                                                | 1870                                                                                | 1870                                                                                | 1870                                                                                | 1870                                                                                |
| Adj Flow Rate, veh/h                                               | 1                                                                                 | 405                                                                               | 121                                                                               | 53                                                                                | 684                                                                               | 1                                                                                 | 268                                                                                 | 1                                                                                   | 111                                                                                 | 1                                                                                   | 2                                                                                   | 1                                                                                   |
| Peak Hour Factor                                                   | 0.95                                                                              | 0.95                                                                              | 0.95                                                                              | 0.95                                                                              | 0.95                                                                              | 0.95                                                                              | 0.95                                                                                | 0.95                                                                                | 0.95                                                                                | 0.95                                                                                | 0.95                                                                                | 0.95                                                                                |
| Percent Heavy Veh, %                                               | 2                                                                                 | 2                                                                                 | 2                                                                                 | 2                                                                                 | 2                                                                                 | 2                                                                                 | 2                                                                                   | 2                                                                                   | 2                                                                                   | 2                                                                                   | 2                                                                                   | 2                                                                                   |
| Cap, veh/h                                                         | 476                                                                               | 2066                                                                              | 922                                                                               | 603                                                                               | 2252                                                                              | 3                                                                                 | 411                                                                                 | 430                                                                                 | 365                                                                                 | 55                                                                                  | 54                                                                                  | 21                                                                                  |
| Arrive On Green                                                    | 0.00                                                                              | 0.58                                                                              | 0.58                                                                              | 0.04                                                                              | 0.62                                                                              | 0.62                                                                              | 0.13                                                                                | 0.23                                                                                | 0.23                                                                                | 0.05                                                                                | 0.05                                                                                | 0.05                                                                                |
| Sat Flow, veh/h                                                    | 1781                                                                              | 3554                                                                              | 1585                                                                              | 1781                                                                              | 3641                                                                              | 5                                                                                 | 1781                                                                                | 1870                                                                                | 1585                                                                                | 196                                                                                 | 1082                                                                                | 426                                                                                 |
| Grp Volume(v), veh/h                                               | 1                                                                                 | 405                                                                               | 121                                                                               | 53                                                                                | 334                                                                               | 351                                                                               | 268                                                                                 | 1                                                                                   | 111                                                                                 | 4                                                                                   | 0                                                                                   | 0                                                                                   |
| Grp Sat Flow(s),veh/h/ln                                           | 1781                                                                              | 1777                                                                              | 1585                                                                              | 1781                                                                              | 1777                                                                              | 1869                                                                              | 1781                                                                                | 1870                                                                                | 1585                                                                                | 1703                                                                                | 0                                                                                   | 0                                                                                   |
| Q Serve(g_s), s                                                    | 0.0                                                                               | 5.4                                                                               | 3.5                                                                               | 1.1                                                                               | 8.8                                                                               | 8.8                                                                               | 13.0                                                                                | 0.0                                                                                 | 5.8                                                                                 | 0.0                                                                                 | 0.0                                                                                 | 0.0                                                                                 |
| Cycle Q Clear(g_c), s                                              | 0.0                                                                               | 5.4                                                                               | 3.5                                                                               | 1.1                                                                               | 8.8                                                                               | 8.8                                                                               | 13.0                                                                                | 0.0                                                                                 | 5.8                                                                                 | 0.2                                                                                 | 0.0                                                                                 | 0.0                                                                                 |
| Prop In Lane                                                       | 1.00                                                                              |                                                                                   | 1.00                                                                              | 1.00                                                                              |                                                                                   | 0.00                                                                              | 1.00                                                                                |                                                                                     | 1.00                                                                                | 0.25                                                                                |                                                                                     | 0.25                                                                                |
| Lane Grp Cap(c), veh/h                                             | 476                                                                               | 2066                                                                              | 922                                                                               | 603                                                                               | 1099                                                                              | 1156                                                                              | 411                                                                                 | 430                                                                                 | 365                                                                                 | 130                                                                                 | 0                                                                                   | 0                                                                                   |
| V/C Ratio(X)                                                       | 0.00                                                                              | 0.20                                                                              | 0.13                                                                              | 0.09                                                                              | 0.30                                                                              | 0.30                                                                              | 0.65                                                                                | 0.00                                                                                | 0.30                                                                                | 0.03                                                                                | 0.00                                                                                | 0.00                                                                                |
| Avail Cap(c_a), veh/h                                              | 598                                                                               | 2066                                                                              | 922                                                                               | 659                                                                               | 1099                                                                              | 1156                                                                              | 411                                                                                 | 468                                                                                 | 396                                                                                 | 162                                                                                 | 0                                                                                   | 0                                                                                   |
| HCM Platoon Ratio                                                  | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                |
| Upstream Filter(I)                                                 | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 0.00                                                                                | 0.00                                                                                |
| Uniform Delay (d), s/veh                                           | 8.8                                                                               | 9.9                                                                               | 9.5                                                                               | 7.4                                                                               | 9.0                                                                               | 9.0                                                                               | 37.7                                                                                | 29.7                                                                                | 31.9                                                                                | 45.2                                                                                | 0.0                                                                                 | 0.0                                                                                 |
| Incr Delay (d2), s/veh                                             | 0.0                                                                               | 0.2                                                                               | 0.3                                                                               | 0.1                                                                               | 0.7                                                                               | 0.7                                                                               | 3.7                                                                                 | 0.0                                                                                 | 0.5                                                                                 | 0.1                                                                                 | 0.0                                                                                 | 0.0                                                                                 |
| Initial Q Delay(d3),s/veh                                          | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               | 0.0                                                                                 | 0.0                                                                                 | 0.0                                                                                 | 0.0                                                                                 | 0.0                                                                                 | 0.0                                                                                 |
| %ile BackOfQ(50%),veh/ln                                           | 0.0                                                                               | 1.9                                                                               | 1.1                                                                               | 0.4                                                                               | 3.1                                                                               | 3.3                                                                               | 6.4                                                                                 | 0.0                                                                                 | 2.2                                                                                 | 0.1                                                                                 | 0.0                                                                                 | 0.0                                                                                 |
| Unsig. Movement Delay, s/veh                                       |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| LnGrp Delay(d),s/veh                                               | 8.8                                                                               | 10.1                                                                              | 9.8                                                                               | 7.4                                                                               | 9.7                                                                               | 9.6                                                                               | 41.3                                                                                | 29.7                                                                                | 32.3                                                                                | 45.3                                                                                | 0.0                                                                                 | 0.0                                                                                 |
| LnGrp LOS                                                          | A                                                                                 | B                                                                                 | A                                                                                 | A                                                                                 | A                                                                                 | A                                                                                 | D                                                                                   | C                                                                                   | C                                                                                   | D                                                                                   | A                                                                                   | A                                                                                   |
| Approach Vol, veh/h                                                |                                                                                   | 527                                                                               |                                                                                   |                                                                                   | 738                                                                               |                                                                                   |                                                                                     | 380                                                                                 |                                                                                     |                                                                                     | 4                                                                                   |                                                                                     |
| Approach Delay, s/veh                                              |                                                                                   | 10.0                                                                              |                                                                                   |                                                                                   | 9.5                                                                               |                                                                                   |                                                                                     | 38.7                                                                                |                                                                                     |                                                                                     | 45.3                                                                                |                                                                                     |
| Approach LOS                                                       |                                                                                   | B                                                                                 |                                                                                   |                                                                                   | A                                                                                 |                                                                                   |                                                                                     | D                                                                                   |                                                                                     |                                                                                     | D                                                                                   |                                                                                     |
| Timer - Assigned Phs                                               |                                                                                   | 2                                                                                 | 3                                                                                 | 4                                                                                 | 5                                                                                 | 6                                                                                 | 7                                                                                   | 8                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Phs Duration (G+Y+Rc), s                                           |                                                                                   | 28.0                                                                              | 8.9                                                                               | 63.1                                                                              | 18.0                                                                              | 10.0                                                                              | 5.1                                                                                 | 66.9                                                                                |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Change Period (Y+Rc), s                                            |                                                                                   | 5.0                                                                               | 5.0                                                                               | 5.0                                                                               | 5.0                                                                               | 5.0                                                                               | 5.0                                                                                 | 5.0                                                                                 |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Max Green Setting (Gmax), s                                        |                                                                                   | 25.0                                                                              | 7.0                                                                               | 53.0                                                                              | 13.0                                                                              | 7.0                                                                               | 7.0                                                                                 | 53.0                                                                                |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Max Q Clear Time (g_c+I1), s                                       |                                                                                   | 7.8                                                                               | 3.1                                                                               | 7.4                                                                               | 15.0                                                                              | 2.2                                                                               | 2.0                                                                                 | 10.8                                                                                |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Green Ext Time (p_c), s                                            |                                                                                   | 0.3                                                                               | 0.0                                                                               | 3.0                                                                               | 0.0                                                                               | 0.0                                                                               | 0.0                                                                                 | 4.1                                                                                 |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| <b>Intersection Summary</b>                                        |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| HCM 6th Ctrl Delay                                                 |                                                                                   |                                                                                   | 16.5                                                                              |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| HCM 6th LOS                                                        |                                                                                   |                                                                                   | B                                                                                 |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| <b>Notes</b>                                                       |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| User approved pedestrian interval to be less than phase max green. |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |

HCM 6th TWSC  
2: Idylwood St & Crystal Valley Pkwy

2046 Background  
AM Peak - Signal at #1

| Intersection             |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |       |        |      |                                                                                     |
|--------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------|--------|------|-------------------------------------------------------------------------------------|
| Int Delay, s/veh         | 6.1                                                                               |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |       |        |      |                                                                                     |
| Movement                 | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | WBR                                                                               | NBL                                                                               | NBT                                                                               | NBR   | SBL    | SBT  | SBR                                                                                 |
| Lane Configurations      |  |  |  |  |  |  |  |  |       |        |      |  |
| Traffic Vol, veh/h       | 6                                                                                 | 470                                                                               | 16                                                                                | 7                                                                                 | 635                                                                               | 3                                                                                 | 45                                                                                | 1                                                                                 | 20    | 0      | 0    | 22                                                                                  |
| Future Vol, veh/h        | 6                                                                                 | 470                                                                               | 16                                                                                | 7                                                                                 | 635                                                                               | 3                                                                                 | 45                                                                                | 1                                                                                 | 20    | 0      | 0    | 22                                                                                  |
| Conflicting Peds, #/hr   | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0     | 0      | 0    | 0                                                                                   |
| Sign Control             | Free                                                                              | Free                                                                              | Free                                                                              | Free                                                                              | Free                                                                              | Free                                                                              | Stop                                                                              | Stop                                                                              | Stop  | Stop   | Stop | Stop                                                                                |
| RT Channelized           | -                                                                                 | -                                                                                 | None                                                                              | -                                                                                 | -                                                                                 | None                                                                              | -                                                                                 | -                                                                                 | None  | -      | -    | None                                                                                |
| Storage Length           | 255                                                                               | -                                                                                 | -                                                                                 | 225                                                                               | -                                                                                 | 315                                                                               | -                                                                                 | -                                                                                 | -     | -      | -    | 0                                                                                   |
| Veh in Median Storage, # | -                                                                                 | 0                                                                                 | -                                                                                 | -                                                                                 | 0                                                                                 | -                                                                                 | -                                                                                 | 0                                                                                 | -     | -      | 0    | -                                                                                   |
| Grade, %                 | -                                                                                 | 0                                                                                 | -                                                                                 | -                                                                                 | 0                                                                                 | -                                                                                 | -                                                                                 | 0                                                                                 | -     | -      | 0    | -                                                                                   |
| Peak Hour Factor         | 80                                                                                | 80                                                                                | 80                                                                                | 80                                                                                | 80                                                                                | 80                                                                                | 80                                                                                | 80                                                                                | 80    | 80     | 80   | 80                                                                                  |
| Heavy Vehicles, %        | 2                                                                                 | 2                                                                                 | 2                                                                                 | 2                                                                                 | 2                                                                                 | 2                                                                                 | 2                                                                                 | 2                                                                                 | 2     | 2      | 2    | 2                                                                                   |
| Mvmt Flow                | 8                                                                                 | 588                                                                               | 20                                                                                | 9                                                                                 | 794                                                                               | 4                                                                                 | 56                                                                                | 1                                                                                 | 25    | 0      | 0    | 28                                                                                  |
|                          |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |       |        |      |                                                                                     |
| Major/Minor              | Major1                                                                            |                                                                                   |                                                                                   | Major2                                                                            |                                                                                   |                                                                                   | Minor1                                                                            |                                                                                   |       | Minor2 |      |                                                                                     |
| Conflicting Flow All     | 798                                                                               | 0                                                                                 | 0                                                                                 | 608                                                                               | 0                                                                                 | 0                                                                                 | 1432                                                                              | 1420                                                                              | 588   | -      | -    | 794                                                                                 |
| Stage 1                  | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | 604                                                                               | 604                                                                               | -     | -      | -    | -                                                                                   |
| Stage 2                  | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | 828                                                                               | 816                                                                               | -     | -      | -    | -                                                                                   |
| Critical Hdwy            | 4.12                                                                              | -                                                                                 | -                                                                                 | 4.12                                                                              | -                                                                                 | -                                                                                 | 7.12                                                                              | 6.52                                                                              | 6.22  | -      | -    | 6.22                                                                                |
| Critical Hdwy Stg 1      | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | 6.12                                                                              | 5.52                                                                              | -     | -      | -    | -                                                                                   |
| Critical Hdwy Stg 2      | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | 6.12                                                                              | 5.52                                                                              | -     | -      | -    | -                                                                                   |
| Follow-up Hdwy           | 2.218                                                                             | -                                                                                 | -                                                                                 | 2.218                                                                             | -                                                                                 | -                                                                                 | 3.518                                                                             | 4.018                                                                             | 3.318 | -      | -    | 3.318                                                                               |
| Pot Cap-1 Maneuver       | 824                                                                               | -                                                                                 | -                                                                                 | 947                                                                               | -                                                                                 | -                                                                                 | 78                                                                                | 95                                                                                | 620   | 0      | 0    | 388                                                                                 |
| Stage 1                  | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | 570                                                                               | 515                                                                               | -     | 0      | 0    | -                                                                                   |
| Stage 2                  | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | 365                                                                               | 391                                                                               | -     | 0      | 0    | -                                                                                   |
| Platoon blocked, %       |                                                                                   | -                                                                                 | -                                                                                 | 1                                                                                 | -                                                                                 | -                                                                                 | 1                                                                                 | 1                                                                                 | 1     |        |      |                                                                                     |
| Mov Cap-1 Maneuver       | 824                                                                               | -                                                                                 | -                                                                                 | 947                                                                               | -                                                                                 | -                                                                                 | 71                                                                                | 93                                                                                | 620   | -      | -    | 388                                                                                 |
| Mov Cap-2 Maneuver       | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | 71                                                                                | 93                                                                                | -     | -      | -    | -                                                                                   |
| Stage 1                  | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | 565                                                                               | 510                                                                               | -     | -      | -    | -                                                                                   |
| Stage 2                  | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | 336                                                                               | 387                                                                               | -     | -      | -    | -                                                                                   |
|                          |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |       |        |      |                                                                                     |
| Approach                 | EB                                                                                |                                                                                   |                                                                                   | WB                                                                                |                                                                                   |                                                                                   | NB                                                                                |                                                                                   |       | SB     |      |                                                                                     |
| HCM Control Delay, s     | 0.1                                                                               |                                                                                   |                                                                                   | 0.1                                                                               |                                                                                   |                                                                                   | 107.2                                                                             |                                                                                   |       | 15     |      |                                                                                     |
| HCM LOS                  |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   | F                                                                                 |                                                                                   |       | C      |      |                                                                                     |
|                          |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |       |        |      |                                                                                     |
| Minor Lane/Major Mvmt    | NBLn1                                                                             | NBLn2                                                                             | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | WBR                                                                               | SBLn1 |        |      |                                                                                     |
| Capacity (veh/h)         | 71                                                                                | 488                                                                               | 824                                                                               | -                                                                                 | -                                                                                 | 947                                                                               | -                                                                                 | -                                                                                 | 388   |        |      |                                                                                     |
| HCM Lane V/C Ratio       | 0.792                                                                             | 0.054                                                                             | 0.009                                                                             | -                                                                                 | -                                                                                 | 0.009                                                                             | -                                                                                 | -                                                                                 | 0.071 |        |      |                                                                                     |
| HCM Control Delay (s)    | 151.3                                                                             | 12.8                                                                              | 9.4                                                                               | -                                                                                 | -                                                                                 | 8.8                                                                               | -                                                                                 | -                                                                                 | 15    |        |      |                                                                                     |
| HCM Lane LOS             | F                                                                                 | B                                                                                 | A                                                                                 | -                                                                                 | -                                                                                 | A                                                                                 | -                                                                                 | -                                                                                 | C     |        |      |                                                                                     |
| HCM 95th %tile Q(veh)    | 3.8                                                                               | 0.2                                                                               | 0                                                                                 | -                                                                                 | -                                                                                 | 0                                                                                 | -                                                                                 | -                                                                                 | 0.2   |        |      |                                                                                     |

# HCM 6th AWSC

## 3: Lake Gulch Rd & Crystal Valley Pkwy

2046 Background  
AM Peak - Signal at #1

| Intersection              |      |
|---------------------------|------|
| Intersection Delay, s/veh | 18.9 |
| Intersection LOS          | C    |

| Movement            | EBL                                                                               | EBR                                                                               | NBL                                                                               | NBT                                                                               | SBT                                                                               | SBR                                                                               |
|---------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|
| Lane Configurations |  |  |  |  |  |  |
| Traffic Vol, veh/h  | 415                                                                               | 30                                                                                | 35                                                                                | 95                                                                                | 45                                                                                | 215                                                                               |
| Future Vol, veh/h   | 415                                                                               | 30                                                                                | 35                                                                                | 95                                                                                | 45                                                                                | 215                                                                               |
| Peak Hour Factor    | 0.93                                                                              | 0.93                                                                              | 0.93                                                                              | 0.93                                                                              | 0.93                                                                              | 0.93                                                                              |
| Heavy Vehicles, %   | 2                                                                                 | 2                                                                                 | 2                                                                                 | 2                                                                                 | 2                                                                                 | 2                                                                                 |
| Mvmt Flow           | 446                                                                               | 32                                                                                | 38                                                                                | 102                                                                               | 48                                                                                | 231                                                                               |
| Number of Lanes     | 1                                                                                 | 1                                                                                 | 1                                                                                 | 1                                                                                 | 1                                                                                 | 1                                                                                 |

| Approach                   | EB   | NB   | SB   |
|----------------------------|------|------|------|
| Opposing Approach          |      | SB   | NB   |
| Opposing Lanes             | 0    | 2    | 2    |
| Conflicting Approach Left  | SB   | EB   |      |
| Conflicting Lanes Left     | 2    | 2    | 0    |
| Conflicting Approach Right | NB   |      | EB   |
| Conflicting Lanes Right    | 2    | 0    | 2    |
| HCM Control Delay          | 25.8 | 10.7 | 11.2 |
| HCM LOS                    | D    | B    | B    |

| Lane                   | NBLn1 | NBLn2 | EBLn1 | EBLn2 | SBLn1 | SBLn2 |
|------------------------|-------|-------|-------|-------|-------|-------|
| Vol Left, %            | 100%  | 0%    | 100%  | 0%    | 0%    | 0%    |
| Vol Thru, %            | 0%    | 100%  | 0%    | 0%    | 100%  | 0%    |
| Vol Right, %           | 0%    | 0%    | 0%    | 100%  | 0%    | 100%  |
| Sign Control           | Stop  | Stop  | Stop  | Stop  | Stop  | Stop  |
| Traffic Vol by Lane    | 35    | 95    | 415   | 30    | 45    | 215   |
| LT Vol                 | 35    | 0     | 415   | 0     | 0     | 0     |
| Through Vol            | 0     | 95    | 0     | 0     | 45    | 0     |
| RT Vol                 | 0     | 0     | 0     | 30    | 0     | 215   |
| Lane Flow Rate         | 38    | 102   | 446   | 32    | 48    | 231   |
| Geometry Grp           | 5     | 5     | 5     | 5     | 5     | 5     |
| Degree of Util (X)     | 0.074 | 0.185 | 0.773 | 0.045 | 0.085 | 0.361 |
| Departure Headway (Hd) | 7.041 | 6.531 | 6.24  | 5.032 | 6.341 | 5.629 |
| Convergence, Y/N       | Yes   | Yes   | Yes   | Yes   | Yes   | Yes   |
| Cap                    | 508   | 549   | 580   | 712   | 565   | 638   |
| Service Time           | 4.79  | 4.28  | 3.965 | 2.757 | 4.084 | 3.371 |
| HCM Lane V/C Ratio     | 0.075 | 0.186 | 0.769 | 0.045 | 0.085 | 0.362 |
| HCM Control Delay      | 10.4  | 10.8  | 27.1  | 8     | 9.7   | 11.5  |
| HCM Lane LOS           | B     | B     | D     | A     | A     | B     |
| HCM 95th-tile Q        | 0.2   | 0.7   | 7.1   | 0.1   | 0.3   | 1.6   |

# HCM 6th Signalized Intersection Summary

## 1: Loop Rd & Crystal Valley Pkwy

2046 Background  
PM Peak - Signal at #1

|                                                                    |  |  |  |  |  |  |  |  |  |  |  |  |
|--------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Movement                                                           | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | WBR                                                                               | NBL                                                                                 | NBT                                                                                 | NBR                                                                                 | SBL                                                                                 | SBT                                                                                 | SBR                                                                                 |
| Lane Configurations                                                |  |  |  |  |  |                                                                                   |  |  |  |                                                                                     |  |                                                                                     |
| Traffic Volume (veh/h)                                             | 8                                                                                 | 585                                                                               | 255                                                                               | 115                                                                               | 450                                                                               | 4                                                                                 | 170                                                                                 | 1                                                                                   | 70                                                                                  | 5                                                                                   | 2                                                                                   | 12                                                                                  |
| Future Volume (veh/h)                                              | 8                                                                                 | 585                                                                               | 255                                                                               | 115                                                                               | 450                                                                               | 4                                                                                 | 170                                                                                 | 1                                                                                   | 70                                                                                  | 5                                                                                   | 2                                                                                   | 12                                                                                  |
| Initial Q (Qb), veh                                                | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                   | 0                                                                                   | 0                                                                                   | 0                                                                                   | 0                                                                                   | 0                                                                                   |
| Ped-Bike Adj(A_pbT)                                                | 1.00                                                                              |                                                                                   | 1.00                                                                              | 1.00                                                                              |                                                                                   | 1.00                                                                              | 1.00                                                                                |                                                                                     | 1.00                                                                                | 1.00                                                                                |                                                                                     | 1.00                                                                                |
| Parking Bus, Adj                                                   | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                |
| Work Zone On Approach                                              |                                                                                   | No                                                                                |                                                                                   |                                                                                   | No                                                                                |                                                                                   |                                                                                     | No                                                                                  |                                                                                     |                                                                                     | No                                                                                  |                                                                                     |
| Adj Sat Flow, veh/h/ln                                             | 1870                                                                              | 1870                                                                              | 1870                                                                              | 1870                                                                              | 1870                                                                              | 1870                                                                              | 1870                                                                                | 1870                                                                                | 1870                                                                                | 1870                                                                                | 1870                                                                                | 1870                                                                                |
| Adj Flow Rate, veh/h                                               | 9                                                                                 | 636                                                                               | 277                                                                               | 125                                                                               | 489                                                                               | 4                                                                                 | 185                                                                                 | 1                                                                                   | 76                                                                                  | 5                                                                                   | 2                                                                                   | 13                                                                                  |
| Peak Hour Factor                                                   | 0.92                                                                              | 0.92                                                                              | 0.92                                                                              | 0.92                                                                              | 0.92                                                                              | 0.92                                                                              | 0.92                                                                                | 0.92                                                                                | 0.92                                                                                | 0.92                                                                                | 0.92                                                                                | 0.92                                                                                |
| Percent Heavy Veh, %                                               | 2                                                                                 | 2                                                                                 | 2                                                                                 | 2                                                                                 | 2                                                                                 | 2                                                                                 | 2                                                                                   | 2                                                                                   | 2                                                                                   | 2                                                                                   | 2                                                                                   | 2                                                                                   |
| Cap, veh/h                                                         | 608                                                                               | 2102                                                                              | 938                                                                               | 466                                                                               | 2272                                                                              | 19                                                                                | 378                                                                                 | 393                                                                                 | 333                                                                                 | 57                                                                                  | 16                                                                                  | 52                                                                                  |
| Arrive On Green                                                    | 0.01                                                                              | 0.59                                                                              | 0.59                                                                              | 0.05                                                                              | 0.63                                                                              | 0.63                                                                              | 0.11                                                                                | 0.21                                                                                | 0.21                                                                                | 0.05                                                                                | 0.05                                                                                | 0.05                                                                                |
| Sat Flow, veh/h                                                    | 1781                                                                              | 3554                                                                              | 1585                                                                              | 1781                                                                              | 3612                                                                              | 30                                                                                | 1781                                                                                | 1870                                                                                | 1585                                                                                | 237                                                                                 | 318                                                                                 | 1031                                                                                |
| Grp Volume(v), veh/h                                               | 9                                                                                 | 636                                                                               | 277                                                                               | 125                                                                               | 240                                                                               | 253                                                                               | 185                                                                                 | 1                                                                                   | 76                                                                                  | 20                                                                                  | 0                                                                                   | 0                                                                                   |
| Grp Sat Flow(s),veh/h/ln                                           | 1781                                                                              | 1777                                                                              | 1585                                                                              | 1781                                                                              | 1777                                                                              | 1865                                                                              | 1781                                                                                | 1870                                                                                | 1585                                                                                | 1586                                                                                | 0                                                                                   | 0                                                                                   |
| Q Serve(g_s), s                                                    | 0.2                                                                               | 8.9                                                                               | 8.6                                                                               | 2.7                                                                               | 5.8                                                                               | 5.8                                                                               | 9.5                                                                                 | 0.0                                                                                 | 4.0                                                                                 | 0.0                                                                                 | 0.0                                                                                 | 0.0                                                                                 |
| Cycle Q Clear(g_c), s                                              | 0.2                                                                               | 8.9                                                                               | 8.6                                                                               | 2.7                                                                               | 5.8                                                                               | 5.8                                                                               | 9.5                                                                                 | 0.0                                                                                 | 4.0                                                                                 | 1.1                                                                                 | 0.0                                                                                 | 0.0                                                                                 |
| Prop In Lane                                                       | 1.00                                                                              |                                                                                   | 1.00                                                                              | 1.00                                                                              |                                                                                   | 0.02                                                                              | 1.00                                                                                |                                                                                     | 1.00                                                                                | 0.25                                                                                |                                                                                     | 0.65                                                                                |
| Lane Grp Cap(c), veh/h                                             | 608                                                                               | 2102                                                                              | 938                                                                               | 466                                                                               | 1118                                                                              | 1173                                                                              | 378                                                                                 | 393                                                                                 | 333                                                                                 | 124                                                                                 | 0                                                                                   | 0                                                                                   |
| V/C Ratio(X)                                                       | 0.01                                                                              | 0.30                                                                              | 0.30                                                                              | 0.27                                                                              | 0.22                                                                              | 0.22                                                                              | 0.49                                                                                | 0.00                                                                                | 0.23                                                                                | 0.16                                                                                | 0.00                                                                                | 0.00                                                                                |
| Avail Cap(c_a), veh/h                                              | 713                                                                               | 2102                                                                              | 938                                                                               | 504                                                                               | 1118                                                                              | 1173                                                                              | 378                                                                                 | 468                                                                                 | 396                                                                                 | 186                                                                                 | 0                                                                                   | 0                                                                                   |
| HCM Platoon Ratio                                                  | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                |
| Upstream Filter(I)                                                 | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 0.00                                                                                | 0.00                                                                                |
| Uniform Delay (d), s/veh                                           | 8.0                                                                               | 10.2                                                                              | 10.1                                                                              | 7.3                                                                               | 8.0                                                                               | 8.0                                                                               | 37.5                                                                                | 31.2                                                                                | 32.8                                                                                | 45.7                                                                                | 0.0                                                                                 | 0.0                                                                                 |
| Incr Delay (d2), s/veh                                             | 0.0                                                                               | 0.4                                                                               | 0.8                                                                               | 0.3                                                                               | 0.4                                                                               | 0.4                                                                               | 1.0                                                                                 | 0.0                                                                                 | 0.3                                                                                 | 0.6                                                                                 | 0.0                                                                                 | 0.0                                                                                 |
| Initial Q Delay(d3),s/veh                                          | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               | 0.0                                                                                 | 0.0                                                                                 | 0.0                                                                                 | 0.0                                                                                 | 0.0                                                                                 | 0.0                                                                                 |
| %ile BackOfQ(50%),veh/ln                                           | 0.1                                                                               | 3.1                                                                               | 2.8                                                                               | 0.9                                                                               | 2.0                                                                               | 2.1                                                                               | 4.1                                                                                 | 0.0                                                                                 | 1.5                                                                                 | 0.5                                                                                 | 0.0                                                                                 | 0.0                                                                                 |
| Unsig. Movement Delay, s/veh                                       |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| LnGrp Delay(d),s/veh                                               | 8.0                                                                               | 10.5                                                                              | 10.9                                                                              | 7.6                                                                               | 8.4                                                                               | 8.4                                                                               | 38.5                                                                                | 31.2                                                                                | 33.1                                                                                | 46.3                                                                                | 0.0                                                                                 | 0.0                                                                                 |
| LnGrp LOS                                                          | A                                                                                 | B                                                                                 | B                                                                                 | A                                                                                 | A                                                                                 | A                                                                                 | D                                                                                   | C                                                                                   | C                                                                                   | D                                                                                   | A                                                                                   | A                                                                                   |
| Approach Vol, veh/h                                                |                                                                                   | 922                                                                               |                                                                                   |                                                                                   | 618                                                                               |                                                                                   |                                                                                     | 262                                                                                 |                                                                                     |                                                                                     | 20                                                                                  |                                                                                     |
| Approach Delay, s/veh                                              |                                                                                   | 10.6                                                                              |                                                                                   |                                                                                   | 8.2                                                                               |                                                                                   |                                                                                     | 36.9                                                                                |                                                                                     |                                                                                     | 46.3                                                                                |                                                                                     |
| Approach LOS                                                       |                                                                                   | B                                                                                 |                                                                                   |                                                                                   | A                                                                                 |                                                                                   |                                                                                     | D                                                                                   |                                                                                     |                                                                                     | D                                                                                   |                                                                                     |
| Timer - Assigned Phs                                               |                                                                                   | 2                                                                                 | 3                                                                                 | 4                                                                                 | 5                                                                                 | 6                                                                                 | 7                                                                                   | 8                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Phs Duration (G+Y+Rc), s                                           |                                                                                   | 26.0                                                                              | 9.8                                                                               | 64.2                                                                              | 16.0                                                                              | 10.0                                                                              | 6.1                                                                                 | 67.9                                                                                |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Change Period (Y+Rc), s                                            |                                                                                   | 5.0                                                                               | 5.0                                                                               | 5.0                                                                               | 5.0                                                                               | 5.0                                                                               | 5.0                                                                                 | 5.0                                                                                 |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Max Green Setting (Gmax), s                                        |                                                                                   | 25.0                                                                              | 7.0                                                                               | 53.0                                                                              | 11.0                                                                              | 9.0                                                                               | 7.0                                                                                 | 53.0                                                                                |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Max Q Clear Time (g_c+I1), s                                       |                                                                                   | 6.0                                                                               | 4.7                                                                               | 10.9                                                                              | 11.5                                                                              | 3.1                                                                               | 2.2                                                                                 | 7.8                                                                                 |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Green Ext Time (p_c), s                                            |                                                                                   | 0.2                                                                               | 0.1                                                                               | 5.5                                                                               | 0.0                                                                               | 0.0                                                                               | 0.0                                                                                 | 2.8                                                                                 |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| <b>Intersection Summary</b>                                        |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| HCM 6th Ctrl Delay                                                 |                                                                                   |                                                                                   | 14.0                                                                              |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| HCM 6th LOS                                                        |                                                                                   |                                                                                   | B                                                                                 |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| <b>Notes</b>                                                       |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| User approved pedestrian interval to be less than phase max green. |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |

HCM 6th TWSC  
2: Idylwood St & Crystal Valley Pkwy

2046 Background  
PM Peak - Signal at #1

| Intersection             |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |        |      |                                                                                     |
|--------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|--------|------|-------------------------------------------------------------------------------------|
| Int Delay, s/veh         | 2.8                                                                               |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |        |      |                                                                                     |
| Movement                 | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | WBR                                                                               | NBL                                                                               | NBT                                                                               | NBR                                                                               | SBL    | SBT  | SBR                                                                                 |
| Lane Configurations      |  |  |  |  |  |  |  |  |  |        |      |  |
| Traffic Vol, veh/h       | 18                                                                                | 600                                                                               | 42                                                                                | 18                                                                                | 535                                                                               | 8                                                                                 | 23                                                                                | 2                                                                                 | 10                                                                                | 0      | 0    | 13                                                                                  |
| Future Vol, veh/h        | 18                                                                                | 600                                                                               | 42                                                                                | 18                                                                                | 535                                                                               | 8                                                                                 | 23                                                                                | 2                                                                                 | 10                                                                                | 0      | 0    | 13                                                                                  |
| Conflicting Peds, #/hr   | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0      | 0    | 0                                                                                   |
| Sign Control             | Free                                                                              | Free                                                                              | Free                                                                              | Free                                                                              | Free                                                                              | Free                                                                              | Stop                                                                              | Stop                                                                              | Stop                                                                              | Stop   | Stop | Stop                                                                                |
| RT Channelized           | -                                                                                 | -                                                                                 | None                                                                              | -                                                                                 | -                                                                                 | None                                                                              | -                                                                                 | -                                                                                 | None                                                                              | -      | -    | None                                                                                |
| Storage Length           | 255                                                                               | -                                                                                 | -                                                                                 | 225                                                                               | -                                                                                 | 315                                                                               | -                                                                                 | -                                                                                 | -                                                                                 | -      | -    | 0                                                                                   |
| Veh in Median Storage, # | -                                                                                 | 0                                                                                 | -                                                                                 | -                                                                                 | 0                                                                                 | -                                                                                 | -                                                                                 | 0                                                                                 | -                                                                                 | -      | 0    | -                                                                                   |
| Grade, %                 | -                                                                                 | 0                                                                                 | -                                                                                 | -                                                                                 | 0                                                                                 | -                                                                                 | -                                                                                 | 0                                                                                 | -                                                                                 | -      | 0    | -                                                                                   |
| Peak Hour Factor         | 83                                                                                | 83                                                                                | 83                                                                                | 83                                                                                | 83                                                                                | 83                                                                                | 83                                                                                | 83                                                                                | 83                                                                                | 83     | 83   | 83                                                                                  |
| Heavy Vehicles, %        | 2                                                                                 | 2                                                                                 | 2                                                                                 | 2                                                                                 | 2                                                                                 | 2                                                                                 | 2                                                                                 | 2                                                                                 | 2                                                                                 | 2      | 2    | 2                                                                                   |
| Mvmt Flow                | 22                                                                                | 723                                                                               | 51                                                                                | 22                                                                                | 645                                                                               | 10                                                                                | 28                                                                                | 2                                                                                 | 12                                                                                | 0      | 0    | 16                                                                                  |
| Major/Minor              | Major1                                                                            |                                                                                   |                                                                                   | Major2                                                                            |                                                                                   |                                                                                   | Minor1                                                                            |                                                                                   |                                                                                   | Minor2 |      |                                                                                     |
| Conflicting Flow All     | 655                                                                               | 0                                                                                 | 0                                                                                 | 774                                                                               | 0                                                                                 | 0                                                                                 | 1469                                                                              | 1466                                                                              | 723                                                                               | -      | -    | 645                                                                                 |
| Stage 1                  | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | 767                                                                               | 767                                                                               | -                                                                                 | -      | -    | -                                                                                   |
| Stage 2                  | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | 702                                                                               | 699                                                                               | -                                                                                 | -      | -    | -                                                                                   |
| Critical Hdwy            | 4.12                                                                              | -                                                                                 | -                                                                                 | 4.12                                                                              | -                                                                                 | -                                                                                 | 7.12                                                                              | 6.52                                                                              | 6.22                                                                              | -      | -    | 6.22                                                                                |
| Critical Hdwy Stg 1      | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | 6.12                                                                              | 5.52                                                                              | -                                                                                 | -      | -    | -                                                                                   |
| Critical Hdwy Stg 2      | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | 6.12                                                                              | 5.52                                                                              | -                                                                                 | -      | -    | -                                                                                   |
| Follow-up Hdwy           | 2.218                                                                             | -                                                                                 | -                                                                                 | 2.218                                                                             | -                                                                                 | -                                                                                 | 3.518                                                                             | 4.018                                                                             | 3.318                                                                             | -      | -    | 3.318                                                                               |
| Pot Cap-1 Maneuver       | 932                                                                               | -                                                                                 | -                                                                                 | 769                                                                               | -                                                                                 | -                                                                                 | 60                                                                                | 72                                                                                | 541                                                                               | 0      | 0    | 472                                                                                 |
| Stage 1                  | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | 463                                                                               | 420                                                                               | -                                                                                 | 0      | 0    | -                                                                                   |
| Stage 2                  | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | 429                                                                               | 442                                                                               | -                                                                                 | 0      | 0    | -                                                                                   |
| Platoon blocked, %       |                                                                                   | -                                                                                 | -                                                                                 | 1                                                                                 | -                                                                                 | -                                                                                 | 1                                                                                 | 1                                                                                 | 1                                                                                 |        |      |                                                                                     |
| Mov Cap-1 Maneuver       | 932                                                                               | -                                                                                 | -                                                                                 | 769                                                                               | -                                                                                 | -                                                                                 | 55                                                                                | 68                                                                                | 541                                                                               | -      | -    | 472                                                                                 |
| Mov Cap-2 Maneuver       | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | 55                                                                                | 68                                                                                | -                                                                                 | -      | -    | -                                                                                   |
| Stage 1                  | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | 452                                                                               | 410                                                                               | -                                                                                 | -      | -    | -                                                                                   |
| Stage 2                  | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | 403                                                                               | 429                                                                               | -                                                                                 | -      | -    | -                                                                                   |
| Approach                 | EB                                                                                |                                                                                   |                                                                                   | WB                                                                                |                                                                                   |                                                                                   | NB                                                                                |                                                                                   |                                                                                   | SB     |      |                                                                                     |
| HCM Control Delay, s     | 0.2                                                                               |                                                                                   |                                                                                   | 0.3                                                                               |                                                                                   |                                                                                   | 88.5                                                                              |                                                                                   |                                                                                   | 12.9   |      |                                                                                     |
| HCM LOS                  |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   | F                                                                                 |                                                                                   |                                                                                   | B      |      |                                                                                     |
| Minor Lane/Major Mvmt    | NBLn1                                                                             | NBLn2                                                                             | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | WBR                                                                               | SBLn1                                                                             |        |      |                                                                                     |
| Capacity (veh/h)         | 55                                                                                | 251                                                                               | 932                                                                               | -                                                                                 | -                                                                                 | 769                                                                               | -                                                                                 | -                                                                                 | 472                                                                               |        |      |                                                                                     |
| HCM Lane V/C Ratio       | 0.504                                                                             | 0.058                                                                             | 0.023                                                                             | -                                                                                 | -                                                                                 | 0.028                                                                             | -                                                                                 | -                                                                                 | 0.033                                                                             |        |      |                                                                                     |
| HCM Control Delay (s)    | 124.1                                                                             | 20.2                                                                              | 9                                                                                 | -                                                                                 | -                                                                                 | 9.8                                                                               | -                                                                                 | -                                                                                 | 12.9                                                                              |        |      |                                                                                     |
| HCM Lane LOS             | F                                                                                 | C                                                                                 | A                                                                                 | -                                                                                 | -                                                                                 | A                                                                                 | -                                                                                 | -                                                                                 | B                                                                                 |        |      |                                                                                     |
| HCM 95th %tile Q(veh)    | 1.9                                                                               | 0.2                                                                               | 0.1                                                                               | -                                                                                 | -                                                                                 | 0.1                                                                               | -                                                                                 | -                                                                                 | 0.1                                                                               |        |      |                                                                                     |

# HCM 6th AWSC

## 3: Lake Gulch Rd & Crystal Valley Pkwy

2046 Background  
PM Peak - Signal at #1

| Intersection              |      |
|---------------------------|------|
| Intersection Delay, s/veh | 16.9 |
| Intersection LOS          | C    |

| Movement            | EBL                                                                               | EBR                                                                               | NBL                                                                               | NBT                                                                               | SBT                                                                               | SBR                                                                               |
|---------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|
| Lane Configurations |  |  |  |  |  |  |
| Traffic Vol, veh/h  | 270                                                                               | 65                                                                                | 55                                                                                | 45                                                                                | 85                                                                                | 425                                                                               |
| Future Vol, veh/h   | 270                                                                               | 65                                                                                | 55                                                                                | 45                                                                                | 85                                                                                | 425                                                                               |
| Peak Hour Factor    | 0.88                                                                              | 0.88                                                                              | 0.88                                                                              | 0.88                                                                              | 0.88                                                                              | 0.88                                                                              |
| Heavy Vehicles, %   | 2                                                                                 | 2                                                                                 | 2                                                                                 | 2                                                                                 | 2                                                                                 | 2                                                                                 |
| Mvmt Flow           | 307                                                                               | 74                                                                                | 63                                                                                | 51                                                                                | 97                                                                                | 483                                                                               |
| Number of Lanes     | 1                                                                                 | 1                                                                                 | 1                                                                                 | 1                                                                                 | 1                                                                                 | 1                                                                                 |

| Approach                   | EB   | NB   | SB   |
|----------------------------|------|------|------|
| Opposing Approach          |      | SB   | NB   |
| Opposing Lanes             | 0    | 2    | 2    |
| Conflicting Approach Left  | SB   | EB   |      |
| Conflicting Lanes Left     | 2    | 2    | 0    |
| Conflicting Approach Right | NB   |      | EB   |
| Conflicting Lanes Right    | 2    | 0    | 2    |
| HCM Control Delay          | 16.8 | 10.4 | 18.2 |
| HCM LOS                    | C    | B    | C    |

| Lane                   | NBLn1 | NBLn2 | EBLn1 | EBLn2 | SBLn1 | SBLn2 |
|------------------------|-------|-------|-------|-------|-------|-------|
| Vol Left, %            | 100%  | 0%    | 100%  | 0%    | 0%    | 0%    |
| Vol Thru, %            | 0%    | 100%  | 0%    | 0%    | 100%  | 0%    |
| Vol Right, %           | 0%    | 0%    | 0%    | 100%  | 0%    | 100%  |
| Sign Control           | Stop  | Stop  | Stop  | Stop  | Stop  | Stop  |
| Traffic Vol by Lane    | 55    | 45    | 270   | 65    | 85    | 425   |
| LT Vol                 | 55    | 0     | 270   | 0     | 0     | 0     |
| Through Vol            | 0     | 45    | 0     | 0     | 85    | 0     |
| RT Vol                 | 0     | 0     | 0     | 65    | 0     | 425   |
| Lane Flow Rate         | 62    | 51    | 307   | 74    | 97    | 483   |
| Geometry Grp           | 5     | 5     | 5     | 5     | 5     | 5     |
| Degree of Util (X)     | 0.123 | 0.093 | 0.582 | 0.115 | 0.161 | 0.709 |
| Departure Headway (Hd) | 7.089 | 6.578 | 6.826 | 5.615 | 5.994 | 5.284 |
| Convergence, Y/N       | Yes   | Yes   | Yes   | Yes   | Yes   | Yes   |
| Cap                    | 505   | 544   | 528   | 638   | 598   | 681   |
| Service Time           | 4.846 | 4.335 | 4.562 | 3.351 | 3.735 | 3.025 |
| HCM Lane V/C Ratio     | 0.123 | 0.094 | 0.581 | 0.116 | 0.162 | 0.709 |
| HCM Control Delay      | 10.8  | 10    | 18.7  | 9.1   | 9.9   | 19.9  |
| HCM Lane LOS           | B     | A     | C     | A     | A     | C     |
| HCM 95th-tile Q        | 0.4   | 0.3   | 3.7   | 0.4   | 0.6   | 5.9   |

HCM 6th Roundabout  
1: Loop Rd & Crystal Valley Pkwy

2046 Background  
AM Peak - RA at #1

| Intersection                |       |       |       |       |       |       |
|-----------------------------|-------|-------|-------|-------|-------|-------|
| Intersection Delay, s/veh   | 6.6   |       |       |       |       |       |
| Intersection LOS            | A     |       |       |       |       |       |
| Approach                    | EB    |       | WB    |       | NB    |       |
| Entry Lanes                 | 2     |       | 2     |       | 1     |       |
| Conflicting Circle Lanes    | 2     |       | 2     |       | 2     |       |
| Adj Approach Flow, veh/h    | 527   |       | 738   |       | 380   |       |
| Demand Flow Rate, veh/h     | 537   |       | 753   |       | 387   |       |
| Vehicles Circulating, veh/h | 57    |       | 275   |       | 415   |       |
| Vehicles Exiting, veh/h     | 972   |       | 527   |       | 179   |       |
| Ped Vol Crossing Leg, #/h   | 0     |       | 0     |       | 0     |       |
| Ped Cap Adj                 | 1.000 |       | 1.000 |       | 1.000 |       |
| Approach Delay, s/veh       | 5.3   |       | 6.9   |       | 7.9   |       |
| Approach LOS                | A     |       | A     |       | A     |       |
| Lane                        | Left  | Right | Left  | Right | Left  | Left  |
| Designated Moves            | LT    | R     | LT    | TR    | LTR   | LTR   |
| Assumed Moves               | LT    | R     | LT    | TR    | LTR   | LTR   |
| RT Channelized              |       |       |       |       |       |       |
| Lane Util                   | 0.771 | 0.229 | 0.470 | 0.530 | 1.000 | 1.000 |
| Follow-Up Headway, s        | 2.667 | 2.535 | 2.667 | 2.535 | 2.535 | 2.535 |
| Critical Headway, s         | 4.645 | 4.328 | 4.645 | 4.328 | 4.328 | 4.328 |
| Entry Flow, veh/h           | 414   | 123   | 354   | 399   | 387   | 4     |
| Cap Entry Lane, veh/h       | 1281  | 1353  | 1048  | 1124  | 998   | 594   |
| Entry HV Adj Factor         | 0.980 | 0.984 | 0.980 | 0.981 | 0.982 | 0.990 |
| Flow Entry, veh/h           | 406   | 121   | 347   | 391   | 380   | 4     |
| Cap Entry, veh/h            | 1256  | 1331  | 1027  | 1102  | 980   | 588   |
| V/C Ratio                   | 0.323 | 0.091 | 0.338 | 0.355 | 0.388 | 0.007 |
| Control Delay, s/veh        | 5.8   | 3.4   | 7.0   | 6.8   | 7.9   | 6.2   |
| LOS                         | A     | A     | A     | A     | A     | A     |
| 95th %tile Queue, veh       | 1     | 0     | 2     | 2     | 2     | 0     |

HCM 6th TWSC  
2: Idylwood St & Crystal Valley Pkwy

2046 Background  
AM Peak - RA at #1

| Intersection             |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |      |      |                                                                                     |
|--------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|------------------------------------------------------------------------------------|------|------|-------------------------------------------------------------------------------------|
| Int Delay, s/veh         | 3.4                                                                               |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |      |      |                                                                                     |
| Movement                 | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | WBR                                                                               | NBL                                                                               | NBT                                                                               | NBR                                                                                | SBL  | SBT  | SBR                                                                                 |
| Lane Configurations      |  |  |  |  |  |  |  |  |  |      |      |  |
| Traffic Vol, veh/h       | 6                                                                                 | 470                                                                               | 16                                                                                | 7                                                                                 | 635                                                                               | 3                                                                                 | 45                                                                                | 1                                                                                 | 20                                                                                 | 0    | 0    | 22                                                                                  |
| Future Vol, veh/h        | 6                                                                                 | 470                                                                               | 16                                                                                | 7                                                                                 | 635                                                                               | 3                                                                                 | 45                                                                                | 1                                                                                 | 20                                                                                 | 0    | 0    | 22                                                                                  |
| Conflicting Peds, #/hr   | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                  | 0    | 0    | 0                                                                                   |
| Sign Control             | Free                                                                              | Free                                                                              | Free                                                                              | Free                                                                              | Free                                                                              | Free                                                                              | Stop                                                                              | Stop                                                                              | Stop                                                                               | Stop | Stop | Stop                                                                                |
| RT Channelized           | -                                                                                 | -                                                                                 | None                                                                              | -                                                                                 | -                                                                                 | None                                                                              | -                                                                                 | -                                                                                 | None                                                                               | -    | -    | None                                                                                |
| Storage Length           | 255                                                                               | -                                                                                 | 285                                                                               | 225                                                                               | -                                                                                 | 315                                                                               | -                                                                                 | -                                                                                 | -                                                                                  | -    | -    | 0                                                                                   |
| Veh in Median Storage, # | -                                                                                 | 0                                                                                 | -                                                                                 | -                                                                                 | 0                                                                                 | -                                                                                 | -                                                                                 | 0                                                                                 | -                                                                                  | -    | 0    | -                                                                                   |
| Grade, %                 | -                                                                                 | 0                                                                                 | -                                                                                 | -                                                                                 | 0                                                                                 | -                                                                                 | -                                                                                 | 0                                                                                 | -                                                                                  | -    | 0    | -                                                                                   |
| Peak Hour Factor         | 80                                                                                | 80                                                                                | 80                                                                                | 80                                                                                | 80                                                                                | 80                                                                                | 80                                                                                | 80                                                                                | 80                                                                                 | 80   | 80   | 80                                                                                  |
| Heavy Vehicles, %        | 2                                                                                 | 2                                                                                 | 2                                                                                 | 2                                                                                 | 2                                                                                 | 2                                                                                 | 2                                                                                 | 2                                                                                 | 2                                                                                  | 2    | 2    | 2                                                                                   |
| Mvmt Flow                | 8                                                                                 | 588                                                                               | 20                                                                                | 9                                                                                 | 794                                                                               | 4                                                                                 | 56                                                                                | 1                                                                                 | 25                                                                                 | 0    | 0    | 28                                                                                  |

| Major/Minor          | Major1 |   |   | Major2 |   |   | Minor1 |       |       | Minor2 |   |       |
|----------------------|--------|---|---|--------|---|---|--------|-------|-------|--------|---|-------|
| Conflicting Flow All | 798    | 0 | 0 | 608    | 0 | 0 | 1432   | 1420  | 588   | -      | - | 794   |
| Stage 1              | -      | - | - | -      | - | - | 604    | 604   | -     | -      | - | -     |
| Stage 2              | -      | - | - | -      | - | - | 828    | 816   | -     | -      | - | -     |
| Critical Hdwy        | 4.12   | - | - | 4.12   | - | - | 7.12   | 6.52  | 6.22  | -      | - | 6.22  |
| Critical Hdwy Stg 1  | -      | - | - | -      | - | - | 6.12   | 5.52  | -     | -      | - | -     |
| Critical Hdwy Stg 2  | -      | - | - | -      | - | - | 6.12   | 5.52  | -     | -      | - | -     |
| Follow-up Hdwy       | 2.218  | - | - | 2.218  | - | - | 3.518  | 4.018 | 3.318 | -      | - | 3.318 |
| Pot Cap-1 Maneuver   | 824    | - | - | 970    | - | - | 112    | 136   | 509   | 0      | 0 | 388   |
| Stage 1              | -      | - | - | -      | - | - | 485    | 488   | -     | 0      | 0 | -     |
| Stage 2              | -      | - | - | -      | - | - | 365    | 391   | -     | 0      | 0 | -     |
| Platoon blocked, %   | -      | - | - | -      | - | - | -      | -     | -     | -      | - | -     |
| Mov Cap-1 Maneuver   | 824    | - | - | 970    | - | - | 103    | 133   | 509   | -      | - | 388   |
| Mov Cap-2 Maneuver   | -      | - | - | -      | - | - | 103    | 133   | -     | -      | - | -     |
| Stage 1              | -      | - | - | -      | - | - | 480    | 483   | -     | -      | - | -     |
| Stage 2              | -      | - | - | -      | - | - | 336    | 387   | -     | -      | - | -     |

| Approach             | EB  |  |  | WB  |  |  | NB   |  |  | SB |  |  |
|----------------------|-----|--|--|-----|--|--|------|--|--|----|--|--|
| HCM Control Delay, s | 0.1 |  |  | 0.1 |  |  | 55.9 |  |  | 15 |  |  |
| HCM LOS              |     |  |  |     |  |  | F    |  |  | C  |  |  |

| Minor Lane/Major Mvmt | NBLn1 | NBLn2 | EBL   | EBT | EBR | WBL   | WBT | WBR | SBLn1 |
|-----------------------|-------|-------|-------|-----|-----|-------|-----|-----|-------|
| Capacity (veh/h)      | 103   | 449   | 824   | -   | -   | 970   | -   | -   | 388   |
| HCM Lane V/C Ratio    | 0.546 | 0.058 | 0.009 | -   | -   | 0.009 | -   | -   | 0.071 |
| HCM Control Delay (s) | 75.7  | 13.5  | 9.4   | -   | -   | 8.7   | -   | -   | 15    |
| HCM Lane LOS          | F     | B     | A     | -   | -   | A     | -   | -   | C     |
| HCM 95th %tile Q(veh) | 2.5   | 0.2   | 0     | -   | -   | 0     | -   | -   | 0.2   |

# HCM 6th AWSC

## 3: Lake Gulch Rd & Crystal Valley Pkwy

2046 Background  
AM Peak - RA at #1

### Intersection

Intersection Delay, s/veh 18.9  
Intersection LOS C

| Movement            | EBL                                                                               | EBR                                                                               | NBL                                                                               | NBT                                                                               | SBT                                                                               | SBR                                                                               |
|---------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|
| Lane Configurations |  |  |  |  |  |  |
| Traffic Vol, veh/h  | 415                                                                               | 30                                                                                | 35                                                                                | 95                                                                                | 45                                                                                | 215                                                                               |
| Future Vol, veh/h   | 415                                                                               | 30                                                                                | 35                                                                                | 95                                                                                | 45                                                                                | 215                                                                               |
| Peak Hour Factor    | 0.93                                                                              | 0.93                                                                              | 0.93                                                                              | 0.93                                                                              | 0.93                                                                              | 0.93                                                                              |
| Heavy Vehicles, %   | 2                                                                                 | 2                                                                                 | 2                                                                                 | 2                                                                                 | 2                                                                                 | 2                                                                                 |
| Mvmt Flow           | 446                                                                               | 32                                                                                | 38                                                                                | 102                                                                               | 48                                                                                | 231                                                                               |
| Number of Lanes     | 1                                                                                 | 1                                                                                 | 1                                                                                 | 1                                                                                 | 1                                                                                 | 1                                                                                 |

| Approach                   | EB   | NB   | SB   |
|----------------------------|------|------|------|
| Opposing Approach          |      | SB   | NB   |
| Opposing Lanes             | 0    | 2    | 2    |
| Conflicting Approach Left  | SB   | EB   |      |
| Conflicting Lanes Left     | 2    | 2    | 0    |
| Conflicting Approach Right | NB   |      | EB   |
| Conflicting Lanes Right    | 2    | 0    | 2    |
| HCM Control Delay          | 25.8 | 10.7 | 11.2 |
| HCM LOS                    | D    | B    | B    |

| Lane                   | NBLn1 | NBLn2 | EBLn1 | EBLn2 | SBLn1 | SBLn2 |
|------------------------|-------|-------|-------|-------|-------|-------|
| Vol Left, %            | 100%  | 0%    | 100%  | 0%    | 0%    | 0%    |
| Vol Thru, %            | 0%    | 100%  | 0%    | 0%    | 100%  | 0%    |
| Vol Right, %           | 0%    | 0%    | 0%    | 100%  | 0%    | 100%  |
| Sign Control           | Stop  | Stop  | Stop  | Stop  | Stop  | Stop  |
| Traffic Vol by Lane    | 35    | 95    | 415   | 30    | 45    | 215   |
| LT Vol                 | 35    | 0     | 415   | 0     | 0     | 0     |
| Through Vol            | 0     | 95    | 0     | 0     | 45    | 0     |
| RT Vol                 | 0     | 0     | 0     | 30    | 0     | 215   |
| Lane Flow Rate         | 38    | 102   | 446   | 32    | 48    | 231   |
| Geometry Grp           | 5     | 5     | 5     | 5     | 5     | 5     |
| Degree of Util (X)     | 0.074 | 0.185 | 0.773 | 0.045 | 0.085 | 0.361 |
| Departure Headway (Hd) | 7.041 | 6.531 | 6.24  | 5.032 | 6.341 | 5.629 |
| Convergence, Y/N       | Yes   | Yes   | Yes   | Yes   | Yes   | Yes   |
| Cap                    | 508   | 549   | 580   | 712   | 565   | 638   |
| Service Time           | 4.79  | 4.28  | 3.965 | 2.757 | 4.084 | 3.371 |
| HCM Lane V/C Ratio     | 0.075 | 0.186 | 0.769 | 0.045 | 0.085 | 0.362 |
| HCM Control Delay      | 10.4  | 10.8  | 27.1  | 8     | 9.7   | 11.5  |
| HCM Lane LOS           | B     | B     | D     | A     | A     | B     |
| HCM 95th-tile Q        | 0.2   | 0.7   | 7.1   | 0.1   | 0.3   | 1.6   |

HCM 6th Roundabout  
1: Loop Rd & Crystal Valley Pkwy

2046 Background  
PM Peak - RA at #1

| Intersection                |       |       |       |       |       |       |
|-----------------------------|-------|-------|-------|-------|-------|-------|
| Intersection Delay, s/veh   | 7.3   |       |       |       |       |       |
| Intersection LOS            | A     |       |       |       |       |       |
| Approach                    | EB    |       | WB    |       | NB    |       |
| Entry Lanes                 | 2     |       | 2     |       | 1     |       |
| Conflicting Circle Lanes    | 2     |       | 2     |       | 2     |       |
| Adj Approach Flow, veh/h    | 922   |       | 618   |       | 262   |       |
| Demand Flow Rate, veh/h     | 941   |       | 631   |       | 268   |       |
| Vehicles Circulating, veh/h | 134   |       | 199   |       | 663   |       |
| Vehicles Exiting, veh/h     | 701   |       | 732   |       | 412   |       |
| Ped Vol Crossing Leg, #/h   | 0     |       | 0     |       | 0     |       |
| Ped Cap Adj                 | 1.000 |       | 1.000 |       | 1.000 |       |
| Approach Delay, s/veh       | 8.1   |       | 5.7   |       | 8.5   |       |
| Approach LOS                | A     |       | A     |       | A     |       |
| Lane                        | Left  | Right | Left  | Right | Left  | Left  |
| Designated Moves            | LT    | R     | LT    | TR    | LTR   | LTR   |
| Assumed Moves               | LT    | R     | LT    | TR    | LTR   | LTR   |
| RT Channelized              |       |       |       |       |       |       |
| Lane Util                   | 0.699 | 0.301 | 0.471 | 0.529 | 1.000 | 1.000 |
| Follow-Up Headway, s        | 2.667 | 2.535 | 2.667 | 2.535 | 2.535 | 2.535 |
| Critical Headway, s         | 4.645 | 4.328 | 4.645 | 4.328 | 4.328 | 4.328 |
| Entry Flow, veh/h           | 658   | 283   | 297   | 334   | 268   | 20    |
| Cap Entry Lane, veh/h       | 1193  | 1267  | 1124  | 1199  | 808   | 710   |
| Entry HV Adj Factor         | 0.981 | 0.979 | 0.978 | 0.981 | 0.978 | 0.998 |
| Flow Entry, veh/h           | 645   | 277   | 291   | 328   | 262   | 20    |
| Cap Entry, veh/h            | 1170  | 1240  | 1100  | 1176  | 790   | 709   |
| V/C Ratio                   | 0.551 | 0.223 | 0.264 | 0.279 | 0.332 | 0.028 |
| Control Delay, s/veh        | 9.5   | 4.9   | 5.8   | 5.6   | 8.5   | 5.4   |
| LOS                         | A     | A     | A     | A     | A     | A     |
| 95th %tile Queue, veh       | 4     | 1     | 1     | 1     | 1     | 0     |

HCM 6th TWSC  
2: Idylwood St & Crystal Valley Pkwy

2046 Background  
PM Peak - RA at #1

| Intersection             |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |        |      |                                                                                     |
|--------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|--------|------|-------------------------------------------------------------------------------------|
| Int Delay, s/veh         | 1.5                                                                               |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |        |      |                                                                                     |
| Movement                 | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | WBR                                                                               | NBL                                                                               | NBT                                                                               | NBR                                                                               | SBL    | SBT  | SBR                                                                                 |
| Lane Configurations      |  |  |  |  |  |  |  |  |  |        |      |  |
| Traffic Vol, veh/h       | 18                                                                                | 600                                                                               | 42                                                                                | 18                                                                                | 535                                                                               | 8                                                                                 | 23                                                                                | 2                                                                                 | 10                                                                                | 0      | 0    | 13                                                                                  |
| Future Vol, veh/h        | 18                                                                                | 600                                                                               | 42                                                                                | 18                                                                                | 535                                                                               | 8                                                                                 | 23                                                                                | 2                                                                                 | 10                                                                                | 0      | 0    | 13                                                                                  |
| Conflicting Peds, #/hr   | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0      | 0    | 0                                                                                   |
| Sign Control             | Free                                                                              | Free                                                                              | Free                                                                              | Free                                                                              | Free                                                                              | Free                                                                              | Stop                                                                              | Stop                                                                              | Stop                                                                              | Stop   | Stop | Stop                                                                                |
| RT Channelized           | -                                                                                 | -                                                                                 | None                                                                              | -                                                                                 | -                                                                                 | None                                                                              | -                                                                                 | -                                                                                 | None                                                                              | -      | -    | None                                                                                |
| Storage Length           | 255                                                                               | -                                                                                 | 285                                                                               | 225                                                                               | -                                                                                 | 315                                                                               | -                                                                                 | -                                                                                 | -                                                                                 | -      | -    | 0                                                                                   |
| Veh in Median Storage, # | -                                                                                 | 0                                                                                 | -                                                                                 | -                                                                                 | 0                                                                                 | -                                                                                 | -                                                                                 | 0                                                                                 | -                                                                                 | -      | 0    | -                                                                                   |
| Grade, %                 | -                                                                                 | 0                                                                                 | -                                                                                 | -                                                                                 | 0                                                                                 | -                                                                                 | -                                                                                 | 0                                                                                 | -                                                                                 | -      | 0    | -                                                                                   |
| Peak Hour Factor         | 83                                                                                | 83                                                                                | 83                                                                                | 83                                                                                | 83                                                                                | 83                                                                                | 83                                                                                | 83                                                                                | 83                                                                                | 83     | 83   | 83                                                                                  |
| Heavy Vehicles, %        | 2                                                                                 | 2                                                                                 | 2                                                                                 | 2                                                                                 | 2                                                                                 | 2                                                                                 | 2                                                                                 | 2                                                                                 | 2                                                                                 | 2      | 2    | 2                                                                                   |
| Mvmt Flow                | 22                                                                                | 723                                                                               | 51                                                                                | 22                                                                                | 645                                                                               | 10                                                                                | 28                                                                                | 2                                                                                 | 12                                                                                | 0      | 0    | 16                                                                                  |
| Major/Minor              | Major1                                                                            |                                                                                   |                                                                                   | Major2                                                                            |                                                                                   |                                                                                   | Minor1                                                                            |                                                                                   |                                                                                   | Minor2 |      |                                                                                     |
| Conflicting Flow All     | 655                                                                               | 0                                                                                 | 0                                                                                 | 774                                                                               | 0                                                                                 | 0                                                                                 | 1469                                                                              | 1466                                                                              | 723                                                                               | -      | -    | 645                                                                                 |
| Stage 1                  | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | 767                                                                               | 767                                                                               | -                                                                                 | -      | -    | -                                                                                   |
| Stage 2                  | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | 702                                                                               | 699                                                                               | -                                                                                 | -      | -    | -                                                                                   |
| Critical Hdwy            | 4.12                                                                              | -                                                                                 | -                                                                                 | 4.12                                                                              | -                                                                                 | -                                                                                 | 7.12                                                                              | 6.52                                                                              | 6.22                                                                              | -      | -    | 6.22                                                                                |
| Critical Hdwy Stg 1      | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | 6.12                                                                              | 5.52                                                                              | -                                                                                 | -      | -    | -                                                                                   |
| Critical Hdwy Stg 2      | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | 6.12                                                                              | 5.52                                                                              | -                                                                                 | -      | -    | -                                                                                   |
| Follow-up Hdwy           | 2.218                                                                             | -                                                                                 | -                                                                                 | 2.218                                                                             | -                                                                                 | -                                                                                 | 3.518                                                                             | 4.018                                                                             | 3.318                                                                             | -      | -    | 3.318                                                                               |
| Pot Cap-1 Maneuver       | 932                                                                               | -                                                                                 | -                                                                                 | 842                                                                               | -                                                                                 | -                                                                                 | 106                                                                               | 128                                                                               | 426                                                                               | 0      | 0    | 472                                                                                 |
| Stage 1                  | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | 395                                                                               | 411                                                                               | -                                                                                 | 0      | 0    | -                                                                                   |
| Stage 2                  | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | 429                                                                               | 442                                                                               | -                                                                                 | 0      | 0    | -                                                                                   |
| Platoon blocked, %       | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -      | -    | -                                                                                   |
| Mov Cap-1 Maneuver       | 932                                                                               | -                                                                                 | -                                                                                 | 842                                                                               | -                                                                                 | -                                                                                 | 99                                                                                | 122                                                                               | 426                                                                               | -      | -    | 472                                                                                 |
| Mov Cap-2 Maneuver       | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | 99                                                                                | 122                                                                               | -                                                                                 | -      | -    | -                                                                                   |
| Stage 1                  | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | 386                                                                               | 401                                                                               | -                                                                                 | -      | -    | -                                                                                   |
| Stage 2                  | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | 404                                                                               | 431                                                                               | -                                                                                 | -      | -    | -                                                                                   |
| Approach                 | EB                                                                                |                                                                                   |                                                                                   | WB                                                                                |                                                                                   |                                                                                   | NB                                                                                |                                                                                   |                                                                                   | SB     |      |                                                                                     |
| HCM Control Delay, s     | 0.2                                                                               |                                                                                   |                                                                                   | 0.3                                                                               |                                                                                   |                                                                                   | 42.1                                                                              |                                                                                   |                                                                                   | 12.9   |      |                                                                                     |
| HCM LOS                  |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   | E                                                                                 |                                                                                   |                                                                                   | B      |      |                                                                                     |
| Minor Lane/Major Mvmt    | NBLn1                                                                             |                                                                                   | NBLn2                                                                             | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | WBR                                                                               | SBLn1  |      |                                                                                     |
| Capacity (veh/h)         | 99                                                                                |                                                                                   | 301                                                                               | 932                                                                               | -                                                                                 | -                                                                                 | 842                                                                               | -                                                                                 | -                                                                                 | 472    |      |                                                                                     |
| HCM Lane V/C Ratio       | 0.28                                                                              |                                                                                   | 0.048                                                                             | 0.023                                                                             | -                                                                                 | -                                                                                 | 0.026                                                                             | -                                                                                 | -                                                                                 | 0.033  |      |                                                                                     |
| HCM Control Delay (s)    | 54.9                                                                              |                                                                                   | 17.6                                                                              | 9                                                                                 | -                                                                                 | -                                                                                 | 9.4                                                                               | -                                                                                 | -                                                                                 | 12.9   |      |                                                                                     |
| HCM Lane LOS             | F                                                                                 |                                                                                   | C                                                                                 | A                                                                                 | -                                                                                 | -                                                                                 | A                                                                                 | -                                                                                 | -                                                                                 | B      |      |                                                                                     |
| HCM 95th %tile Q(veh)    | 1                                                                                 |                                                                                   | 0.2                                                                               | 0.1                                                                               | -                                                                                 | -                                                                                 | 0.1                                                                               | -                                                                                 | -                                                                                 | 0.1    |      |                                                                                     |

# HCM 6th AWSC

## 3: Lake Gulch Rd & Crystal Valley Pkwy

2046 Background  
PM Peak - RA at #1

| Intersection              |      |
|---------------------------|------|
| Intersection Delay, s/veh | 16.9 |
| Intersection LOS          | C    |

| Movement            | EBL                                                                               | EBR                                                                               | NBL                                                                               | NBT                                                                               | SBT                                                                               | SBR                                                                               |
|---------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|
| Lane Configurations |  |  |  |  |  |  |
| Traffic Vol, veh/h  | 270                                                                               | 65                                                                                | 55                                                                                | 45                                                                                | 85                                                                                | 425                                                                               |
| Future Vol, veh/h   | 270                                                                               | 65                                                                                | 55                                                                                | 45                                                                                | 85                                                                                | 425                                                                               |
| Peak Hour Factor    | 0.88                                                                              | 0.88                                                                              | 0.88                                                                              | 0.88                                                                              | 0.88                                                                              | 0.88                                                                              |
| Heavy Vehicles, %   | 2                                                                                 | 2                                                                                 | 2                                                                                 | 2                                                                                 | 2                                                                                 | 2                                                                                 |
| Mvmt Flow           | 307                                                                               | 74                                                                                | 63                                                                                | 51                                                                                | 97                                                                                | 483                                                                               |
| Number of Lanes     | 1                                                                                 | 1                                                                                 | 1                                                                                 | 1                                                                                 | 1                                                                                 | 1                                                                                 |

| Approach                   | EB   | NB   | SB   |
|----------------------------|------|------|------|
| Opposing Approach          |      | SB   | NB   |
| Opposing Lanes             | 0    | 2    | 2    |
| Conflicting Approach Left  | SB   | EB   |      |
| Conflicting Lanes Left     | 2    | 2    | 0    |
| Conflicting Approach Right | NB   |      | EB   |
| Conflicting Lanes Right    | 2    | 0    | 2    |
| HCM Control Delay          | 16.8 | 10.4 | 18.2 |
| HCM LOS                    | C    | B    | C    |

| Lane                   | NBLn1 | NBLn2 | EBLn1 | EBLn2 | SBLn1 | SBLn2 |
|------------------------|-------|-------|-------|-------|-------|-------|
| Vol Left, %            | 100%  | 0%    | 100%  | 0%    | 0%    | 0%    |
| Vol Thru, %            | 0%    | 100%  | 0%    | 0%    | 100%  | 0%    |
| Vol Right, %           | 0%    | 0%    | 0%    | 100%  | 0%    | 100%  |
| Sign Control           | Stop  | Stop  | Stop  | Stop  | Stop  | Stop  |
| Traffic Vol by Lane    | 55    | 45    | 270   | 65    | 85    | 425   |
| LT Vol                 | 55    | 0     | 270   | 0     | 0     | 0     |
| Through Vol            | 0     | 45    | 0     | 0     | 85    | 0     |
| RT Vol                 | 0     | 0     | 0     | 65    | 0     | 425   |
| Lane Flow Rate         | 62    | 51    | 307   | 74    | 97    | 483   |
| Geometry Grp           | 5     | 5     | 5     | 5     | 5     | 5     |
| Degree of Util (X)     | 0.123 | 0.093 | 0.582 | 0.115 | 0.161 | 0.709 |
| Departure Headway (Hd) | 7.089 | 6.578 | 6.826 | 5.615 | 5.994 | 5.284 |
| Convergence, Y/N       | Yes   | Yes   | Yes   | Yes   | Yes   | Yes   |
| Cap                    | 505   | 544   | 528   | 638   | 598   | 681   |
| Service Time           | 4.846 | 4.335 | 4.562 | 3.351 | 3.735 | 3.025 |
| HCM Lane V/C Ratio     | 0.123 | 0.094 | 0.581 | 0.116 | 0.162 | 0.709 |
| HCM Control Delay      | 10.8  | 10    | 18.7  | 9.1   | 9.9   | 19.9  |
| HCM Lane LOS           | B     | A     | C     | A     | A     | C     |
| HCM 95th-tile Q        | 0.4   | 0.3   | 3.7   | 0.4   | 0.6   | 5.9   |

HCM 6th TWSC  
1: Loop Rd & Crystal Valley Pkwy

2046 Total  
AM Peak

| Intersection             |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
|--------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|
| Int Delay, s/veh         | 31.4                                                                              |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Movement                 | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | WBR                                                                               | NBL                                                                               | NBT                                                                               | NBR                                                                               | SBL                                                                               | SBT                                                                               | SBR                                                                               |
| Lane Configurations      |  |  |  |  |  |  |  |  |  |  |  |  |
| Traffic Vol, veh/h       | 8                                                                                 | 392                                                                               | 115                                                                               | 52                                                                                | 668                                                                               | 1                                                                                 | 255                                                                               | 1                                                                                 | 106                                                                               | 18                                                                                | 3                                                                                 | 20                                                                                |
| Future Vol, veh/h        | 8                                                                                 | 392                                                                               | 115                                                                               | 52                                                                                | 668                                                                               | 1                                                                                 | 255                                                                               | 1                                                                                 | 106                                                                               | 18                                                                                | 3                                                                                 | 20                                                                                |
| Conflicting Peds, #/hr   | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 |
| Sign Control             | Free                                                                              | Free                                                                              | Free                                                                              | Free                                                                              | Free                                                                              | Free                                                                              | Stop                                                                              | Stop                                                                              | Stop                                                                              | Stop                                                                              | Stop                                                                              | Stop                                                                              |
| RT Channelized           | -                                                                                 | -                                                                                 | None                                                                              | -                                                                                 | -                                                                                 | None                                                                              | -                                                                                 | -                                                                                 | None                                                                              | -                                                                                 | -                                                                                 | None                                                                              |
| Storage Length           | 280                                                                               | -                                                                                 | 280                                                                               | 410                                                                               | -                                                                                 | -                                                                                 | 315                                                                               | -                                                                                 | 0                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 |
| Veh in Median Storage, # | -                                                                                 | 0                                                                                 | -                                                                                 | -                                                                                 | 0                                                                                 | -                                                                                 | -                                                                                 | 0                                                                                 | -                                                                                 | -                                                                                 | 0                                                                                 | -                                                                                 |
| Grade, %                 | -                                                                                 | 0                                                                                 | -                                                                                 | -                                                                                 | 0                                                                                 | -                                                                                 | -                                                                                 | 0                                                                                 | -                                                                                 | -                                                                                 | 0                                                                                 | -                                                                                 |
| Peak Hour Factor         | 95                                                                                | 95                                                                                | 95                                                                                | 95                                                                                | 95                                                                                | 95                                                                                | 95                                                                                | 95                                                                                | 95                                                                                | 95                                                                                | 95                                                                                | 95                                                                                |
| Heavy Vehicles, %        | 2                                                                                 | 2                                                                                 | 2                                                                                 | 2                                                                                 | 2                                                                                 | 2                                                                                 | 2                                                                                 | 2                                                                                 | 2                                                                                 | 2                                                                                 | 2                                                                                 | 2                                                                                 |
| Mvmt Flow                | 8                                                                                 | 413                                                                               | 121                                                                               | 55                                                                                | 703                                                                               | 1                                                                                 | 268                                                                               | 1                                                                                 | 112                                                                               | 19                                                                                | 3                                                                                 | 21                                                                                |

| Major/Minor          | Major1 |   |   | Major2 |   |   | Minor1 |      |      | Minor2 |      |      |
|----------------------|--------|---|---|--------|---|---|--------|------|------|--------|------|------|
| Conflicting Flow All | 704    | 0 | 0 | 534    | 0 | 0 | 892    | 1243 | 207  | 1037   | 1364 | 352  |
| Stage 1              | -      | - | - | -      | - | - | 429    | 429  | -    | 814    | 814  | -    |
| Stage 2              | -      | - | - | -      | - | - | 463    | 814  | -    | 223    | 550  | -    |
| Critical Hdwy        | 4.14   | - | - | 4.14   | - | - | 7.54   | 6.54 | 6.94 | 7.54   | 6.54 | 6.94 |
| Critical Hdwy Stg 1  | -      | - | - | -      | - | - | 6.54   | 5.54 | -    | 6.54   | 5.54 | -    |
| Critical Hdwy Stg 2  | -      | - | - | -      | - | - | 6.54   | 5.54 | -    | 6.54   | 5.54 | -    |
| Follow-up Hdwy       | 2.22   | - | - | 2.22   | - | - | 3.52   | 4.02 | 3.32 | 3.52   | 4.02 | 3.32 |
| Pot Cap-1 Maneuver   | 890    | - | - | 1030   | - | - | ~ 237  | 173  | 799  | 185    | 146  | 644  |
| Stage 1              | -      | - | - | -      | - | - | 574    | 582  | -    | 338    | 390  | -    |
| Stage 2              | -      | - | - | -      | - | - | 548    | 390  | -    | 759    | 514  | -    |
| Platoon blocked, %   | -      | - | - | -      | - | - | -      | -    | -    | -      | -    | -    |
| Mov Cap-1 Maneuver   | 890    | - | - | 1030   | - | - | ~ 214  | 162  | 799  | 151    | 137  | 644  |
| Mov Cap-2 Maneuver   | -      | - | - | -      | - | - | ~ 214  | 162  | -    | 151    | 137  | -    |
| Stage 1              | -      | - | - | -      | - | - | 569    | 577  | -    | 335    | 369  | -    |
| Stage 2              | -      | - | - | -      | - | - | 497    | 369  | -    | 646    | 509  | -    |

| Approach             | EB  | WB  | NB    | SB   |
|----------------------|-----|-----|-------|------|
| HCM Control Delay, s | 0.1 | 0.6 | 138.3 | 23.4 |
| HCM LOS              |     |     | F     | C    |

| Minor Lane/Major Mvmt | NBLn1 | NBLn2 | NBLn3 | EBL   | EBT | EBR | WBL   | WBT | WBR | SBLn1 |
|-----------------------|-------|-------|-------|-------|-----|-----|-------|-----|-----|-------|
| Capacity (veh/h)      | 214   | 162   | 799   | 890   | -   | -   | 1030  | -   | -   | 238   |
| HCM Lane V/C Ratio    | 1.254 | 0.006 | 0.14  | 0.009 | -   | -   | 0.053 | -   | -   | 0.181 |
| HCM Control Delay (s) | 192   | 27.4  | 10.2  | 9.1   | -   | -   | 8.7   | -   | -   | 23.4  |
| HCM Lane LOS          | F     | D     | B     | A     | -   | -   | A     | -   | -   | C     |
| HCM 95th %tile Q(veh) | 14    | 0     | 0.5   | 0     | -   | -   | 0.2   | -   | -   | 0.6   |

| Notes                      |                        |                            |                                |
|----------------------------|------------------------|----------------------------|--------------------------------|
| ~: Volume exceeds capacity | \$: Delay exceeds 300s | +: Computation Not Defined | *: All major volume in platoon |

HCM 6th TWSC  
2: Idylwood St & Crystal Valley Pkwy

2046 Total  
AM Peak

| Intersection             |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |      |      |                                                                                     |
|--------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|------------------------------------------------------------------------------------|------|------|-------------------------------------------------------------------------------------|
| Int Delay, s/veh         | 4.6                                                                               |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |      |      |                                                                                     |
| Movement                 | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | WBR                                                                               | NBL                                                                               | NBT                                                                               | NBR                                                                                | SBL  | SBT  | SBR                                                                                 |
| Lane Configurations      |  |  |  |  |  |  |  |  |  |      |      |  |
| Traffic Vol, veh/h       | 14                                                                                | 487                                                                               | 16                                                                                | 7                                                                                 | 635                                                                               | 9                                                                                 | 45                                                                                | 1                                                                                 | 20                                                                                 | 0    | 0    | 42                                                                                  |
| Future Vol, veh/h        | 14                                                                                | 487                                                                               | 16                                                                                | 7                                                                                 | 635                                                                               | 9                                                                                 | 45                                                                                | 1                                                                                 | 20                                                                                 | 0    | 0    | 42                                                                                  |
| Conflicting Peds, #/hr   | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                  | 0    | 0    | 0                                                                                   |
| Sign Control             | Free                                                                              | Free                                                                              | Free                                                                              | Free                                                                              | Free                                                                              | Free                                                                              | Stop                                                                              | Stop                                                                              | Stop                                                                               | Stop | Stop | Stop                                                                                |
| RT Channelized           | -                                                                                 | -                                                                                 | None                                                                              | -                                                                                 | -                                                                                 | None                                                                              | -                                                                                 | -                                                                                 | None                                                                               | -    | -    | None                                                                                |
| Storage Length           | 255                                                                               | -                                                                                 | 285                                                                               | 225                                                                               | -                                                                                 | 315                                                                               | -                                                                                 | -                                                                                 | -                                                                                  | -    | -    | 0                                                                                   |
| Veh in Median Storage, # | -                                                                                 | 0                                                                                 | -                                                                                 | -                                                                                 | 0                                                                                 | -                                                                                 | -                                                                                 | 0                                                                                 | -                                                                                  | -    | 0    | -                                                                                   |
| Grade, %                 | -                                                                                 | 0                                                                                 | -                                                                                 | -                                                                                 | 0                                                                                 | -                                                                                 | -                                                                                 | 0                                                                                 | -                                                                                  | -    | 0    | -                                                                                   |
| Peak Hour Factor         | 80                                                                                | 80                                                                                | 80                                                                                | 80                                                                                | 80                                                                                | 80                                                                                | 80                                                                                | 80                                                                                | 80                                                                                 | 80   | 80   | 80                                                                                  |
| Heavy Vehicles, %        | 2                                                                                 | 2                                                                                 | 2                                                                                 | 2                                                                                 | 2                                                                                 | 2                                                                                 | 2                                                                                 | 2                                                                                 | 2                                                                                  | 2    | 2    | 2                                                                                   |
| Mvmt Flow                | 18                                                                                | 609                                                                               | 20                                                                                | 9                                                                                 | 794                                                                               | 11                                                                                | 56                                                                                | 1                                                                                 | 25                                                                                 | 0    | 0    | 53                                                                                  |

| Major/Minor          | Major1 |   |   | Major2 |   |   | Minor1 |       |       | Minor2 |   |       |
|----------------------|--------|---|---|--------|---|---|--------|-------|-------|--------|---|-------|
| Conflicting Flow All | 805    | 0 | 0 | 629    | 0 | 0 | 1489   | 1468  | 609   | -      | - | 794   |
| Stage 1              | -      | - | - | -      | - | - | 645    | 645   | -     | -      | - | -     |
| Stage 2              | -      | - | - | -      | - | - | 844    | 823   | -     | -      | - | -     |
| Critical Hdwy        | 4.12   | - | - | 4.12   | - | - | 7.12   | 6.52  | 6.22  | -      | - | 6.22  |
| Critical Hdwy Stg 1  | -      | - | - | -      | - | - | 6.12   | 5.52  | -     | -      | - | -     |
| Critical Hdwy Stg 2  | -      | - | - | -      | - | - | 6.12   | 5.52  | -     | -      | - | -     |
| Follow-up Hdwy       | 2.218  | - | - | 2.218  | - | - | 3.518  | 4.018 | 3.318 | -      | - | 3.318 |
| Pot Cap-1 Maneuver   | 819    | - | - | 953    | - | - | 102    | 128   | 495   | 0      | 0 | 388   |
| Stage 1              | -      | - | - | -      | - | - | 461    | 467   | -     | 0      | 0 | -     |
| Stage 2              | -      | - | - | -      | - | - | 358    | 388   | -     | 0      | 0 | -     |
| Platoon blocked, %   |        | - | - |        | - | - |        |       |       |        |   |       |
| Mov Cap-1 Maneuver   | 819    | - | - | 953    | - | - | 86     | 124   | 495   | -      | - | 388   |
| Mov Cap-2 Maneuver   | -      | - | - | -      | - | - | 86     | 124   | -     | -      | - | -     |
| Stage 1              | -      | - | - | -      | - | - | 451    | 457   | -     | -      | - | -     |
| Stage 2              | -      | - | - | -      | - | - | 307    | 385   | -     | -      | - | -     |

| Approach             | EB  |  |  | WB  |  |  | NB   |  |  | SB   |  |  |
|----------------------|-----|--|--|-----|--|--|------|--|--|------|--|--|
| HCM Control Delay, s | 0.3 |  |  | 0.1 |  |  | 75.7 |  |  | 15.7 |  |  |
| HCM LOS              |     |  |  |     |  |  | F    |  |  | C    |  |  |

| Minor Lane/Major Mvmt | NBLn1 | NBLn2 | EBL   | EBT | EBR | WBL   | WBT | WBR | SBLn1 |
|-----------------------|-------|-------|-------|-----|-----|-------|-----|-----|-------|
| Capacity (veh/h)      | 86    | 433   | 819   | -   | -   | 953   | -   | -   | 388   |
| HCM Lane V/C Ratio    | 0.654 | 0.061 | 0.021 | -   | -   | 0.009 | -   | -   | 0.135 |
| HCM Control Delay (s) | 104.6 | 13.9  | 9.5   | -   | -   | 8.8   | -   | -   | 15.7  |
| HCM Lane LOS          | F     | B     | A     | -   | -   | A     | -   | -   | C     |
| HCM 95th %tile Q(veh) | 3.1   | 0.2   | 0.1   | -   | -   | 0     | -   | -   | 0.5   |

HCM 6th AWSC  
3: Lake Gulch Rd & Crystal Valley Pkwy

2046 Total  
AM Peak

| Intersection              |      |
|---------------------------|------|
| Intersection Delay, s/veh | 20.8 |
| Intersection LOS          | C    |

| Movement            | EBL                                                                               | EBR                                                                               | NBL                                                                               | NBT                                                                               | SBT                                                                               | SBR                                                                               |
|---------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|
| Lane Configurations |  |  |  |  |  |  |
| Traffic Vol, veh/h  | 432                                                                               | 30                                                                                | 35                                                                                | 95                                                                                | 45                                                                                | 221                                                                               |
| Future Vol, veh/h   | 432                                                                               | 30                                                                                | 35                                                                                | 95                                                                                | 45                                                                                | 221                                                                               |
| Peak Hour Factor    | 0.93                                                                              | 0.93                                                                              | 0.93                                                                              | 0.93                                                                              | 0.93                                                                              | 0.93                                                                              |
| Heavy Vehicles, %   | 2                                                                                 | 2                                                                                 | 2                                                                                 | 2                                                                                 | 2                                                                                 | 2                                                                                 |
| Mvmt Flow           | 465                                                                               | 32                                                                                | 38                                                                                | 102                                                                               | 48                                                                                | 238                                                                               |
| Number of Lanes     | 1                                                                                 | 1                                                                                 | 1                                                                                 | 1                                                                                 | 1                                                                                 | 1                                                                                 |

| Approach                   | EB   | NB   | SB   |
|----------------------------|------|------|------|
| Opposing Approach          |      | SB   | NB   |
| Opposing Lanes             | 0    | 2    | 2    |
| Conflicting Approach Left  | SB   | EB   |      |
| Conflicting Lanes Left     | 2    | 2    | 0    |
| Conflicting Approach Right | NB   |      | EB   |
| Conflicting Lanes Right    | 2    | 0    | 2    |
| HCM Control Delay          | 28.9 | 10.8 | 11.5 |
| HCM LOS                    | D    | B    | B    |

| Lane                   | NBLn1 | NBLn2 | EBLn1 | EBLn2 | SBLn1 | SBLn2 |
|------------------------|-------|-------|-------|-------|-------|-------|
| Vol Left, %            | 100%  | 0%    | 100%  | 0%    | 0%    | 0%    |
| Vol Thru, %            | 0%    | 100%  | 0%    | 0%    | 100%  | 0%    |
| Vol Right, %           | 0%    | 0%    | 0%    | 100%  | 0%    | 100%  |
| Sign Control           | Stop  | Stop  | Stop  | Stop  | Stop  | Stop  |
| Traffic Vol by Lane    | 35    | 95    | 432   | 30    | 45    | 221   |
| LT Vol                 | 35    | 0     | 432   | 0     | 0     | 0     |
| Through Vol            | 0     | 95    | 0     | 0     | 45    | 0     |
| RT Vol                 | 0     | 0     | 0     | 30    | 0     | 221   |
| Lane Flow Rate         | 38    | 102   | 465   | 32    | 48    | 238   |
| Geometry Grp           | 5     | 5     | 5     | 5     | 5     | 5     |
| Degree of Util (X)     | 0.075 | 0.188 | 0.809 | 0.045 | 0.086 | 0.376 |
| Departure Headway (Hd) | 7.13  | 6.619 | 6.269 | 5.061 | 6.413 | 5.7   |
| Convergence, Y/N       | Yes   | Yes   | Yes   | Yes   | Yes   | Yes   |
| Cap                    | 502   | 540   | 581   | 708   | 558   | 630   |
| Service Time           | 4.886 | 4.375 | 3.997 | 2.79  | 4.163 | 3.45  |
| HCM Lane V/C Ratio     | 0.076 | 0.189 | 0.8   | 0.045 | 0.086 | 0.378 |
| HCM Control Delay      | 10.5  | 10.9  | 30.4  | 8     | 9.8   | 11.9  |
| HCM Lane LOS           | B     | B     | D     | A     | A     | B     |
| HCM 95th-tile Q        | 0.2   | 0.7   | 8     | 0.1   | 0.3   | 1.7   |

HCM 6th TWSC  
1: Loop Rd & Crystal Valley Pkwy

2046 Total  
PM Peak

| Intersection             |      |      |      |      |      |      |      |      |      |      |      |      |
|--------------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Int Delay, s/veh         | 45.3 |      |      |      |      |      |      |      |      |      |      |      |
| Movement                 | EBL  | EBT  | EBR  | WBL  | WBT  | WBR  | NBL  | NBT  | NBR  | SBL  | SBT  | SBR  |
| Lane Configurations      | ↰    | ↗↗   | ↰    | ↰    | ↗↗   |      | ↰    | ↗    | ↰    |      | ↗↗   |      |
| Traffic Vol, veh/h       | 29   | 606  | 255  | 116  | 463  | 4    | 170  | 2    | 72   | 17   | 3    | 25   |
| Future Vol, veh/h        | 29   | 606  | 255  | 116  | 463  | 4    | 170  | 2    | 72   | 17   | 3    | 25   |
| Conflicting Peds, #/hr   | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Sign Control             | Free | Free | Free | Free | Free | Free | Stop | Stop | Stop | Stop | Stop | Stop |
| RT Channelized           | -    | -    | None | -    | -    | None | -    | -    | None | -    | -    | None |
| Storage Length           | 280  | -    | 280  | 410  | -    | -    | 315  | -    | 0    | -    | -    | -    |
| Veh in Median Storage, # | -    | 0    | -    | -    | 0    | -    | -    | 0    | -    | -    | 0    | -    |
| Grade, %                 | -    | 0    | -    | -    | 0    | -    | -    | 0    | -    | -    | 0    | -    |
| Peak Hour Factor         | 92   | 92   | 92   | 92   | 92   | 92   | 92   | 92   | 92   | 92   | 92   | 92   |
| Heavy Vehicles, %        | 2    | 2    | 2    | 2    | 2    | 2    | 2    | 2    | 2    | 2    | 2    | 2    |
| Mvmt Flow                | 32   | 659  | 277  | 126  | 503  | 4    | 185  | 2    | 78   | 18   | 3    | 27   |

| Major/Minor          | Major1 |   |   | Major2 |   |   | Minor1 |      |      | Minor2 |      |      |
|----------------------|--------|---|---|--------|---|---|--------|------|------|--------|------|------|
| Conflicting Flow All | 507    | 0 | 0 | 936    | 0 | 0 | 1228   | 1482 | 330  | 1152   | 1757 | 254  |
| Stage 1              | -      | - | - | -      | - | - | 723    | 723  | -    | 757    | 757  | -    |
| Stage 2              | -      | - | - | -      | - | - | 505    | 759  | -    | 395    | 1000 | -    |
| Critical Hdwy        | 4.14   | - | - | 4.14   | - | - | 7.54   | 6.54 | 6.94 | 7.54   | 6.54 | 6.94 |
| Critical Hdwy Stg 1  | -      | - | - | -      | - | - | 6.54   | 5.54 | -    | 6.54   | 5.54 | -    |
| Critical Hdwy Stg 2  | -      | - | - | -      | - | - | 6.54   | 5.54 | -    | 6.54   | 5.54 | -    |
| Follow-up Hdwy       | 2.22   | - | - | 2.22   | - | - | 3.52   | 4.02 | 3.32 | 3.52   | 4.02 | 3.32 |
| Pot Cap-1 Maneuver   | 1054   | - | - | 727    | - | - | ~ 134  | 124  | 666  | 153    | 84   | 745  |
| Stage 1              | -      | - | - | -      | - | - | 384    | 429  | -    | 366    | 414  | -    |
| Stage 2              | -      | - | - | -      | - | - | 518    | 413  | -    | 602    | 319  | -    |
| Platoon blocked, %   | -      | - | - | -      | - | - | -      | -    | -    | -      | -    | -    |
| Mov Cap-1 Maneuver   | 1054   | - | - | 727    | - | - | ~ 105  | 99   | 666  | 113    | 67   | 745  |
| Mov Cap-2 Maneuver   | -      | - | - | -      | - | - | ~ 105  | 99   | -    | 113    | 67   | -    |
| Stage 1              | -      | - | - | -      | - | - | 372    | 416  | -    | 355    | 342  | -    |
| Stage 2              | -      | - | - | -      | - | - | 409    | 342  | -    | 512    | 309  | -    |

| Approach             | EB  | WB  | NB       | SB   |
|----------------------|-----|-----|----------|------|
| HCM Control Delay, s | 0.3 | 2.2 | \$ 315.5 | 29.2 |
| HCM LOS              |     |     | F        | D    |

| Minor Lane/Major Mvmt | NBLn1    | NBLn2 | NBLn3 | EBL  | EBT | EBR | WBL   | WBT | WBR | SBLn1 |
|-----------------------|----------|-------|-------|------|-----|-----|-------|-----|-----|-------|
| Capacity (veh/h)      | 105      | 99    | 666   | 1054 | -   | -   | 727   | -   | -   | 197   |
| HCM Lane V/C Ratio    | 1.76     | 0.022 | 0.118 | 0.03 | -   | -   | 0.173 | -   | -   | 0.248 |
| HCM Control Delay (s) | \$ 447.7 | 42.2  | 11.1  | 8.5  | -   | -   | 11    | -   | -   | 29.2  |
| HCM Lane LOS          | F        | E     | B     | A    | -   | -   | B     | -   | -   | D     |
| HCM 95th %tile Q(veh) | 14.7     | 0.1   | 0.4   | 0.1  | -   | -   | 0.6   | -   | -   | 0.9   |

| Notes                      |                        |                            |                                |
|----------------------------|------------------------|----------------------------|--------------------------------|
| ~: Volume exceeds capacity | \$: Delay exceeds 300s | +: Computation Not Defined | *: All major volume in platoon |

HCM 6th TWSC  
2: Idylwood St & Crystal Valley Pkwy

2046 Total  
PM Peak

| Intersection             |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |        |      |                                                                                     |
|--------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|--------|------|-------------------------------------------------------------------------------------|
| Int Delay, s/veh         | 2.1                                                                               |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |        |      |                                                                                     |
| Movement                 | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | WBR                                                                               | NBL                                                                               | NBT                                                                               | NBR                                                                               | SBL    | SBT  | SBR                                                                                 |
| Lane Configurations      |  |  |  |  |  |  |  |  |  |        |      |  |
| Traffic Vol, veh/h       | 41                                                                                | 612                                                                               | 42                                                                                | 18                                                                                | 535                                                                               | 28                                                                                | 23                                                                                | 2                                                                                 | 10                                                                                | 0      | 0    | 27                                                                                  |
| Future Vol, veh/h        | 41                                                                                | 612                                                                               | 42                                                                                | 18                                                                                | 535                                                                               | 28                                                                                | 23                                                                                | 2                                                                                 | 10                                                                                | 0      | 0    | 27                                                                                  |
| Conflicting Peds, #/hr   | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0      | 0    | 0                                                                                   |
| Sign Control             | Free                                                                              | Free                                                                              | Free                                                                              | Free                                                                              | Free                                                                              | Free                                                                              | Stop                                                                              | Stop                                                                              | Stop                                                                              | Stop   | Stop | Stop                                                                                |
| RT Channelized           | -                                                                                 | -                                                                                 | None                                                                              | -                                                                                 | -                                                                                 | None                                                                              | -                                                                                 | -                                                                                 | None                                                                              | -      | -    | None                                                                                |
| Storage Length           | 255                                                                               | -                                                                                 | 285                                                                               | 225                                                                               | -                                                                                 | 315                                                                               | -                                                                                 | -                                                                                 | -                                                                                 | -      | -    | 0                                                                                   |
| Veh in Median Storage, # | -                                                                                 | 0                                                                                 | -                                                                                 | -                                                                                 | 0                                                                                 | -                                                                                 | -                                                                                 | 0                                                                                 | -                                                                                 | -      | 0    | -                                                                                   |
| Grade, %                 | -                                                                                 | 0                                                                                 | -                                                                                 | -                                                                                 | 0                                                                                 | -                                                                                 | -                                                                                 | 0                                                                                 | -                                                                                 | -      | 0    | -                                                                                   |
| Peak Hour Factor         | 83                                                                                | 83                                                                                | 83                                                                                | 83                                                                                | 83                                                                                | 83                                                                                | 83                                                                                | 83                                                                                | 83                                                                                | 83     | 83   | 83                                                                                  |
| Heavy Vehicles, %        | 2                                                                                 | 2                                                                                 | 2                                                                                 | 2                                                                                 | 2                                                                                 | 2                                                                                 | 2                                                                                 | 2                                                                                 | 2                                                                                 | 2      | 2    | 2                                                                                   |
| Mvmt Flow                | 49                                                                                | 737                                                                               | 51                                                                                | 22                                                                                | 645                                                                               | 34                                                                                | 28                                                                                | 2                                                                                 | 12                                                                                | 0      | 0    | 33                                                                                  |
|                          |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |        |      |                                                                                     |
| Major/Minor              | Major1                                                                            |                                                                                   |                                                                                   | Major2                                                                            |                                                                                   |                                                                                   | Minor1                                                                            |                                                                                   |                                                                                   | Minor2 |      |                                                                                     |
| Conflicting Flow All     | 679                                                                               | 0                                                                                 | 0                                                                                 | 788                                                                               | 0                                                                                 | 0                                                                                 | 1558                                                                              | 1558                                                                              | 737                                                                               | -      | -    | 645                                                                                 |
| Stage 1                  | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | 835                                                                               | 835                                                                               | -                                                                                 | -      | -    | -                                                                                   |
| Stage 2                  | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | 723                                                                               | 723                                                                               | -                                                                                 | -      | -    | -                                                                                   |
| Critical Hdwy            | 4.12                                                                              | -                                                                                 | -                                                                                 | 4.12                                                                              | -                                                                                 | -                                                                                 | 7.12                                                                              | 6.52                                                                              | 6.22                                                                              | -      | -    | 6.22                                                                                |
| Critical Hdwy Stg 1      | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | 6.12                                                                              | 5.52                                                                              | -                                                                                 | -      | -    | -                                                                                   |
| Critical Hdwy Stg 2      | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | 6.12                                                                              | 5.52                                                                              | -                                                                                 | -      | -    | -                                                                                   |
| Follow-up Hdwy           | 2.218                                                                             | -                                                                                 | -                                                                                 | 2.218                                                                             | -                                                                                 | -                                                                                 | 3.518                                                                             | 4.018                                                                             | 3.318                                                                             | -      | -    | 3.318                                                                               |
| Pot Cap-1 Maneuver       | 913                                                                               | -                                                                                 | -                                                                                 | 831                                                                               | -                                                                                 | -                                                                                 | 91                                                                                | 112                                                                               | 418                                                                               | 0      | 0    | 472                                                                                 |
| Stage 1                  | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | 362                                                                               | 383                                                                               | -                                                                                 | 0      | 0    | -                                                                                   |
| Stage 2                  | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | 417                                                                               | 431                                                                               | -                                                                                 | 0      | 0    | -                                                                                   |
| Platoon blocked, %       |                                                                                   | -                                                                                 | -                                                                                 |                                                                                   | -                                                                                 | -                                                                                 |                                                                                   |                                                                                   |                                                                                   |        |      |                                                                                     |
| Mov Cap-1 Maneuver       | 913                                                                               | -                                                                                 | -                                                                                 | 831                                                                               | -                                                                                 | -                                                                                 | 80                                                                                | 103                                                                               | 418                                                                               | -      | -    | 472                                                                                 |
| Mov Cap-2 Maneuver       | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | 80                                                                                | 103                                                                               | -                                                                                 | -      | -    | -                                                                                   |
| Stage 1                  | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | 342                                                                               | 362                                                                               | -                                                                                 | -      | -    | -                                                                                   |
| Stage 2                  | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | 378                                                                               | 420                                                                               | -                                                                                 | -      | -    | -                                                                                   |
|                          |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |        |      |                                                                                     |
| Approach                 | EB                                                                                |                                                                                   |                                                                                   | WB                                                                                |                                                                                   |                                                                                   | NB                                                                                |                                                                                   |                                                                                   | SB     |      |                                                                                     |
| HCM Control Delay, s     | 0.5                                                                               |                                                                                   |                                                                                   | 0.3                                                                               |                                                                                   |                                                                                   | 53.9                                                                              |                                                                                   |                                                                                   | 13.2   |      |                                                                                     |
| HCM LOS                  |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   | F                                                                                 |                                                                                   |                                                                                   | B      |      |                                                                                     |
|                          |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |        |      |                                                                                     |
| Minor Lane/Major Mvmt    | NBLn1 NBLn2                                                                       |                                                                                   | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | WBR                                                                               | SBLn1                                                                             |        |      |                                                                                     |
| Capacity (veh/h)         | 80                                                                                | 277                                                                               | 913                                                                               | -                                                                                 | -                                                                                 | 831                                                                               | -                                                                                 | -                                                                                 | 472                                                                               |        |      |                                                                                     |
| HCM Lane V/C Ratio       | 0.346                                                                             | 0.052                                                                             | 0.054                                                                             | -                                                                                 | -                                                                                 | 0.026                                                                             | -                                                                                 | -                                                                                 | 0.069                                                                             |        |      |                                                                                     |
| HCM Control Delay (s)    | 72.2                                                                              | 18.7                                                                              | 9.2                                                                               | -                                                                                 | -                                                                                 | 9.4                                                                               | -                                                                                 | -                                                                                 | 13.2                                                                              |        |      |                                                                                     |
| HCM Lane LOS             | F                                                                                 | C                                                                                 | A                                                                                 | -                                                                                 | -                                                                                 | A                                                                                 | -                                                                                 | -                                                                                 | B                                                                                 |        |      |                                                                                     |
| HCM 95th %tile Q(veh)    | 1.3                                                                               | 0.2                                                                               | 0.2                                                                               | -                                                                                 | -                                                                                 | 0.1                                                                               | -                                                                                 | -                                                                                 | 0.2                                                                               |        |      |                                                                                     |

HCM 6th AWSC  
3: Lake Gulch Rd & Crystal Valley Pkwy

2046 Total  
PM Peak

| Intersection              |      |
|---------------------------|------|
| Intersection Delay, s/veh | 18.6 |
| Intersection LOS          | C    |

| Movement            | EBL                                                                               | EBR                                                                               | NBL                                                                               | NBT                                                                               | SBT                                                                               | SBR                                                                               |
|---------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|
| Lane Configurations |  |  |  |  |  |  |
| Traffic Vol, veh/h  | 282                                                                               | 65                                                                                | 55                                                                                | 45                                                                                | 85                                                                                | 445                                                                               |
| Future Vol, veh/h   | 282                                                                               | 65                                                                                | 55                                                                                | 45                                                                                | 85                                                                                | 445                                                                               |
| Peak Hour Factor    | 0.88                                                                              | 0.88                                                                              | 0.88                                                                              | 0.88                                                                              | 0.88                                                                              | 0.88                                                                              |
| Heavy Vehicles, %   | 2                                                                                 | 2                                                                                 | 2                                                                                 | 2                                                                                 | 2                                                                                 | 2                                                                                 |
| Mvmt Flow           | 320                                                                               | 74                                                                                | 63                                                                                | 51                                                                                | 97                                                                                | 506                                                                               |
| Number of Lanes     | 1                                                                                 | 1                                                                                 | 1                                                                                 | 1                                                                                 | 1                                                                                 | 1                                                                                 |

| Approach                   | EB | NB   | SB   |
|----------------------------|----|------|------|
| Opposing Approach          |    | SB   | NB   |
| Opposing Lanes             | 0  | 2    | 2    |
| Conflicting Approach Left  | SB | EB   |      |
| Conflicting Lanes Left     | 2  | 2    | 0    |
| Conflicting Approach Right | NB |      | EB   |
| Conflicting Lanes Right    | 2  | 0    | 2    |
| HCM Control Delay          | 18 | 10.6 | 20.5 |
| HCM LOS                    | C  | B    | C    |

| Lane                   | NBLn1 | NBLn2 | EBLn1 | EBLn2 | SBLn1 | SBLn2 |
|------------------------|-------|-------|-------|-------|-------|-------|
| Vol Left, %            | 100%  | 0%    | 100%  | 0%    | 0%    | 0%    |
| Vol Thru, %            | 0%    | 100%  | 0%    | 0%    | 100%  | 0%    |
| Vol Right, %           | 0%    | 0%    | 0%    | 100%  | 0%    | 100%  |
| Sign Control           | Stop  | Stop  | Stop  | Stop  | Stop  | Stop  |
| Traffic Vol by Lane    | 55    | 45    | 282   | 65    | 85    | 445   |
| LT Vol                 | 55    | 0     | 282   | 0     | 0     | 0     |
| Through Vol            | 0     | 45    | 0     | 0     | 85    | 0     |
| RT Vol                 | 0     | 0     | 0     | 65    | 0     | 445   |
| Lane Flow Rate         | 62    | 51    | 320   | 74    | 97    | 506   |
| Geometry Grp           | 5     | 5     | 5     | 5     | 5     | 5     |
| Degree of Util (X)     | 0.125 | 0.095 | 0.614 | 0.117 | 0.163 | 0.751 |
| Departure Headway (Hd) | 7.196 | 6.685 | 6.895 | 5.683 | 6.057 | 5.347 |
| Convergence, Y/N       | Yes   | Yes   | Yes   | Yes   | Yes   | Yes   |
| Cap                    | 497   | 534   | 522   | 630   | 591   | 673   |
| Service Time           | 4.961 | 4.449 | 4.636 | 3.425 | 3.804 | 3.094 |
| HCM Lane V/C Ratio     | 0.125 | 0.096 | 0.613 | 0.117 | 0.164 | 0.752 |
| HCM Control Delay      | 11    | 10.2  | 20    | 9.2   | 10    | 22.5  |
| HCM Lane LOS           | B     | B     | C     | A     | A     | C     |
| HCM 95th-tile Q        | 0.4   | 0.3   | 4.1   | 0.4   | 0.6   | 6.8   |

# HCM 6th Signalized Intersection Summary

## 1: Loop Rd & Crystal Valley Pkwy

2046 Total  
AM Peak - Signal at #1

|                                                                    |  |  |  |  |  |  |  |  |  |  |  |  |
|--------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Movement                                                           | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | WBR                                                                               | NBL                                                                                | NBT                                                                                 | NBR                                                                                 | SBL                                                                                 | SBT                                                                                 | SBR                                                                                 |
| Lane Configurations                                                |  |  |  |  |  |                                                                                   |  |  |  |                                                                                     |  |  |
| Traffic Volume (veh/h)                                             | 8                                                                                 | 392                                                                               | 115                                                                               | 52                                                                                | 668                                                                               | 1                                                                                 | 255                                                                                | 1                                                                                   | 106                                                                                 | 18                                                                                  | 3                                                                                   | 20                                                                                  |
| Future Volume (veh/h)                                              | 8                                                                                 | 392                                                                               | 115                                                                               | 52                                                                                | 668                                                                               | 1                                                                                 | 255                                                                                | 1                                                                                   | 106                                                                                 | 18                                                                                  | 3                                                                                   | 20                                                                                  |
| Initial Q (Qb), veh                                                | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                  | 0                                                                                   | 0                                                                                   | 0                                                                                   | 0                                                                                   | 0                                                                                   |
| Ped-Bike Adj(A_pbT)                                                | 1.00                                                                              |                                                                                   | 1.00                                                                              | 1.00                                                                              |                                                                                   | 1.00                                                                              | 1.00                                                                               |                                                                                     | 1.00                                                                                | 1.00                                                                                |                                                                                     | 1.00                                                                                |
| Parking Bus, Adj                                                   | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                               | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                |
| Work Zone On Approach                                              |                                                                                   | No                                                                                |                                                                                   |                                                                                   | No                                                                                |                                                                                   |                                                                                    | No                                                                                  |                                                                                     |                                                                                     | No                                                                                  |                                                                                     |
| Adj Sat Flow, veh/h/ln                                             | 1870                                                                              | 1870                                                                              | 1870                                                                              | 1870                                                                              | 1870                                                                              | 1870                                                                              | 1870                                                                               | 1870                                                                                | 1870                                                                                | 1870                                                                                | 1870                                                                                | 1870                                                                                |
| Adj Flow Rate, veh/h                                               | 8                                                                                 | 413                                                                               | 121                                                                               | 55                                                                                | 703                                                                               | 1                                                                                 | 268                                                                                | 1                                                                                   | 112                                                                                 | 19                                                                                  | 3                                                                                   | 21                                                                                  |
| Peak Hour Factor                                                   | 0.95                                                                              | 0.95                                                                              | 0.95                                                                              | 0.95                                                                              | 0.95                                                                              | 0.95                                                                              | 0.95                                                                               | 0.95                                                                                | 0.95                                                                                | 0.95                                                                                | 0.95                                                                                | 0.95                                                                                |
| Percent Heavy Veh, %                                               | 2                                                                                 | 2                                                                                 | 2                                                                                 | 2                                                                                 | 2                                                                                 | 2                                                                                 | 2                                                                                  | 2                                                                                   | 2                                                                                   | 2                                                                                   | 2                                                                                   | 2                                                                                   |
| Cap, veh/h                                                         | 492                                                                               | 2135                                                                              | 952                                                                               | 619                                                                               | 2294                                                                              | 3                                                                                 | 381                                                                                | 393                                                                                 | 333                                                                                 | 79                                                                                  | 11                                                                                  | 36                                                                                  |
| Arrive On Green                                                    | 0.01                                                                              | 0.60                                                                              | 0.60                                                                              | 0.04                                                                              | 0.63                                                                              | 0.63                                                                              | 0.12                                                                               | 0.21                                                                                | 0.21                                                                                | 0.05                                                                                | 0.05                                                                                | 0.05                                                                                |
| Sat Flow, veh/h                                                    | 1781                                                                              | 3554                                                                              | 1585                                                                              | 1781                                                                              | 3641                                                                              | 5                                                                                 | 1781                                                                               | 1870                                                                                | 1585                                                                                | 536                                                                                 | 228                                                                                 | 729                                                                                 |
| Grp Volume(v), veh/h                                               | 8                                                                                 | 413                                                                               | 121                                                                               | 55                                                                                | 343                                                                               | 361                                                                               | 268                                                                                | 1                                                                                   | 112                                                                                 | 43                                                                                  | 0                                                                                   | 0                                                                                   |
| Grp Sat Flow(s),veh/h/ln                                           | 1781                                                                              | 1777                                                                              | 1585                                                                              | 1781                                                                              | 1777                                                                              | 1869                                                                              | 1781                                                                               | 1870                                                                                | 1585                                                                                | 1492                                                                                | 0                                                                                   | 0                                                                                   |
| Q Serve(g_s), s                                                    | 0.2                                                                               | 5.2                                                                               | 3.3                                                                               | 1.1                                                                               | 8.9                                                                               | 8.9                                                                               | 11.5                                                                               | 0.0                                                                                 | 6.0                                                                                 | 1.9                                                                                 | 0.0                                                                                 | 0.0                                                                                 |
| Cycle Q Clear(g_c), s                                              | 0.2                                                                               | 5.2                                                                               | 3.3                                                                               | 1.1                                                                               | 8.9                                                                               | 8.9                                                                               | 11.5                                                                               | 0.0                                                                                 | 6.0                                                                                 | 2.8                                                                                 | 0.0                                                                                 | 0.0                                                                                 |
| Prop In Lane                                                       | 1.00                                                                              |                                                                                   | 1.00                                                                              | 1.00                                                                              |                                                                                   | 0.00                                                                              | 1.00                                                                               |                                                                                     | 1.00                                                                                | 0.44                                                                                |                                                                                     | 0.49                                                                                |
| Lane Grp Cap(c), veh/h                                             | 492                                                                               | 2135                                                                              | 952                                                                               | 619                                                                               | 1119                                                                              | 1178                                                                              | 381                                                                                | 393                                                                                 | 333                                                                                 | 127                                                                                 | 0                                                                                   | 0                                                                                   |
| V/C Ratio(X)                                                       | 0.02                                                                              | 0.19                                                                              | 0.13                                                                              | 0.09                                                                              | 0.31                                                                              | 0.31                                                                              | 0.70                                                                               | 0.00                                                                                | 0.34                                                                                | 0.34                                                                                | 0.00                                                                                | 0.00                                                                                |
| Avail Cap(c_a), veh/h                                              | 599                                                                               | 2135                                                                              | 952                                                                               | 674                                                                               | 1119                                                                              | 1178                                                                              | 381                                                                                | 468                                                                                 | 396                                                                                 | 184                                                                                 | 0                                                                                   | 0                                                                                   |
| HCM Platoon Ratio                                                  | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                               | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                |
| Upstream Filter(I)                                                 | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                               | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 0.00                                                                                | 0.00                                                                                |
| Uniform Delay (d), s/veh                                           | 7.8                                                                               | 9.0                                                                               | 8.6                                                                               | 6.8                                                                               | 8.5                                                                               | 8.5                                                                               | 39.1                                                                               | 31.2                                                                                | 33.6                                                                                | 46.4                                                                                | 0.0                                                                                 | 0.0                                                                                 |
| Incr Delay (d2), s/veh                                             | 0.0                                                                               | 0.2                                                                               | 0.3                                                                               | 0.1                                                                               | 0.7                                                                               | 0.7                                                                               | 5.7                                                                                | 0.0                                                                                 | 0.6                                                                                 | 1.6                                                                                 | 0.0                                                                                 | 0.0                                                                                 |
| Initial Q Delay(d3),s/veh                                          | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               | 0.0                                                                                | 0.0                                                                                 | 0.0                                                                                 | 0.0                                                                                 | 0.0                                                                                 | 0.0                                                                                 |
| %ile BackOfQ(50%),veh/ln                                           | 0.1                                                                               | 1.8                                                                               | 1.1                                                                               | 0.4                                                                               | 3.1                                                                               | 3.2                                                                               | 6.8                                                                                | 0.0                                                                                 | 2.3                                                                                 | 1.1                                                                                 | 0.0                                                                                 | 0.0                                                                                 |
| Unsig. Movement Delay, s/veh                                       |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| LnGrp Delay(d),s/veh                                               | 7.8                                                                               | 9.2                                                                               | 8.9                                                                               | 6.9                                                                               | 9.2                                                                               | 9.2                                                                               | 44.9                                                                               | 31.2                                                                                | 34.2                                                                                | 48.0                                                                                | 0.0                                                                                 | 0.0                                                                                 |
| LnGrp LOS                                                          | A                                                                                 | A                                                                                 | A                                                                                 | A                                                                                 | A                                                                                 | A                                                                                 | D                                                                                  | C                                                                                   | C                                                                                   | D                                                                                   | A                                                                                   | A                                                                                   |
| Approach Vol, veh/h                                                |                                                                                   | 542                                                                               |                                                                                   |                                                                                   | 759                                                                               |                                                                                   |                                                                                    | 381                                                                                 |                                                                                     |                                                                                     | 43                                                                                  |                                                                                     |
| Approach Delay, s/veh                                              |                                                                                   | 9.1                                                                               |                                                                                   |                                                                                   | 9.0                                                                               |                                                                                   |                                                                                    | 41.7                                                                                |                                                                                     |                                                                                     | 48.0                                                                                |                                                                                     |
| Approach LOS                                                       |                                                                                   | A                                                                                 |                                                                                   |                                                                                   | A                                                                                 |                                                                                   |                                                                                    | D                                                                                   |                                                                                     |                                                                                     | D                                                                                   |                                                                                     |
| Timer - Assigned Phs                                               |                                                                                   | 2                                                                                 | 3                                                                                 | 4                                                                                 | 5                                                                                 | 6                                                                                 | 7                                                                                  | 8                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Phs Duration (G+Y+Rc), s                                           |                                                                                   | 26.0                                                                              | 8.9                                                                               | 65.1                                                                              | 16.0                                                                              | 10.0                                                                              | 6.0                                                                                | 68.0                                                                                |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Change Period (Y+Rc), s                                            |                                                                                   | 5.0                                                                               | 5.0                                                                               | 5.0                                                                               | 4.5                                                                               | 5.0                                                                               | 5.0                                                                                | 5.0                                                                                 |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Max Green Setting (Gmax), s                                        |                                                                                   | 25.0                                                                              | 7.0                                                                               | 53.0                                                                              | 11.5                                                                              | 9.0                                                                               | 7.0                                                                                | 53.0                                                                                |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Max Q Clear Time (g_c+I1), s                                       |                                                                                   | 8.0                                                                               | 3.1                                                                               | 7.2                                                                               | 13.5                                                                              | 4.8                                                                               | 2.2                                                                                | 10.9                                                                                |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Green Ext Time (p_c), s                                            |                                                                                   | 0.3                                                                               | 0.0                                                                               | 3.1                                                                               | 0.0                                                                               | 0.0                                                                               | 0.0                                                                                | 4.3                                                                                 |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| <b>Intersection Summary</b>                                        |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| HCM 6th Ctrl Delay                                                 |                                                                                   |                                                                                   | 17.2                                                                              |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| HCM 6th LOS                                                        |                                                                                   |                                                                                   | B                                                                                 |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| <b>Notes</b>                                                       |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| User approved pedestrian interval to be less than phase max green. |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |

HCM 6th TWSC  
2: Idylwood St & Crystal Valley Pkwy

2046 Total  
AM Peak - Signal at #1

| Intersection             |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |      |      |                                                                                     |
|--------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|------------------------------------------------------------------------------------|------|------|-------------------------------------------------------------------------------------|
| Int Delay, s/veh         | 10                                                                                |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |      |      |                                                                                     |
| Movement                 | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | WBR                                                                               | NBL                                                                               | NBT                                                                               | NBR                                                                                | SBL  | SBT  | SBR                                                                                 |
| Lane Configurations      |  |  |  |  |  |  |  |  |  |      |      |  |
| Traffic Vol, veh/h       | 14                                                                                | 487                                                                               | 16                                                                                | 7                                                                                 | 635                                                                               | 9                                                                                 | 45                                                                                | 1                                                                                 | 20                                                                                 | 0    | 0    | 42                                                                                  |
| Future Vol, veh/h        | 14                                                                                | 487                                                                               | 16                                                                                | 7                                                                                 | 635                                                                               | 9                                                                                 | 45                                                                                | 1                                                                                 | 20                                                                                 | 0    | 0    | 42                                                                                  |
| Conflicting Peds, #/hr   | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                  | 0    | 0    | 0                                                                                   |
| Sign Control             | Free                                                                              | Free                                                                              | Free                                                                              | Free                                                                              | Free                                                                              | Free                                                                              | Stop                                                                              | Stop                                                                              | Stop                                                                               | Stop | Stop | Stop                                                                                |
| RT Channelized           | -                                                                                 | -                                                                                 | None                                                                              | -                                                                                 | -                                                                                 | None                                                                              | -                                                                                 | -                                                                                 | None                                                                               | -    | -    | None                                                                                |
| Storage Length           | 255                                                                               | -                                                                                 | -                                                                                 | 225                                                                               | -                                                                                 | 315                                                                               | -                                                                                 | -                                                                                 | -                                                                                  | -    | -    | 0                                                                                   |
| Veh in Median Storage, # | -                                                                                 | 0                                                                                 | -                                                                                 | -                                                                                 | 0                                                                                 | -                                                                                 | -                                                                                 | 0                                                                                 | -                                                                                  | -    | 0    | -                                                                                   |
| Grade, %                 | -                                                                                 | 0                                                                                 | -                                                                                 | -                                                                                 | 0                                                                                 | -                                                                                 | -                                                                                 | 0                                                                                 | -                                                                                  | -    | 0    | -                                                                                   |
| Peak Hour Factor         | 80                                                                                | 80                                                                                | 80                                                                                | 80                                                                                | 80                                                                                | 80                                                                                | 80                                                                                | 80                                                                                | 80                                                                                 | 80   | 80   | 80                                                                                  |
| Heavy Vehicles, %        | 2                                                                                 | 2                                                                                 | 2                                                                                 | 2                                                                                 | 2                                                                                 | 2                                                                                 | 2                                                                                 | 2                                                                                 | 2                                                                                  | 2    | 2    | 2                                                                                   |
| Mvmt Flow                | 18                                                                                | 609                                                                               | 20                                                                                | 9                                                                                 | 794                                                                               | 11                                                                                | 56                                                                                | 1                                                                                 | 25                                                                                 | 0    | 0    | 53                                                                                  |

| Major/Minor          | Major1 |   |   | Major2 |   |   | Minor1 |       |       | Minor2 |   |       |
|----------------------|--------|---|---|--------|---|---|--------|-------|-------|--------|---|-------|
| Conflicting Flow All | 805    | 0 | 0 | 629    | 0 | 0 | 1489   | 1468  | 609   | -      | - | 794   |
| Stage 1              | -      | - | - | -      | - | - | 645    | 645   | -     | -      | - | -     |
| Stage 2              | -      | - | - | -      | - | - | 844    | 823   | -     | -      | - | -     |
| Critical Hdwy        | 4.12   | - | - | 4.12   | - | - | 7.12   | 6.52  | 6.22  | -      | - | 6.22  |
| Critical Hdwy Stg 1  | -      | - | - | -      | - | - | 6.12   | 5.52  | -     | -      | - | -     |
| Critical Hdwy Stg 2  | -      | - | - | -      | - | - | 6.12   | 5.52  | -     | -      | - | -     |
| Follow-up Hdwy       | 2.218  | - | - | 2.218  | - | - | 3.518  | 4.018 | 3.318 | -      | - | 3.318 |
| Pot Cap-1 Maneuver   | 819    | - | - | 927    | - | - | 65     | 82    | 615   | 0      | 0 | 388   |
| Stage 1              | -      | - | - | -      | - | - | 544    | 491   | -     | 0      | 0 | -     |
| Stage 2              | -      | - | - | -      | - | - | 358    | 388   | -     | 0      | 0 | -     |
| Platoon blocked, %   |        | - | - | 1      | - | - | 1      | 1     | 1     |        |   |       |
| Mov Cap-1 Maneuver   | 819    | - | - | 927    | - | - | ~ 54   | 79    | 615   | -      | - | 388   |
| Mov Cap-2 Maneuver   | -      | - | - | -      | - | - | ~ 54   | 79    | -     | -      | - | -     |
| Stage 1              | -      | - | - | -      | - | - | 532    | 481   | -     | -      | - | -     |
| Stage 2              | -      | - | - | -      | - | - | 307    | 384   | -     | -      | - | -     |

| Approach             | EB  | WB  | NB    | SB   |
|----------------------|-----|-----|-------|------|
| HCM Control Delay, s | 0.3 | 0.1 | 180.2 | 15.7 |
| HCM LOS              |     |     | F     | C    |

| Minor Lane/Major Mvmt | NBLn1 | NBLn2 | EBL   | EBT | EBR | WBL   | WBT | WBR | SBLn1 |
|-----------------------|-------|-------|-------|-----|-----|-------|-----|-----|-------|
| Capacity (veh/h)      | 54    | 465   | 819   | -   | -   | 927   | -   | -   | 388   |
| HCM Lane V/C Ratio    | 1.042 | 0.056 | 0.021 | -   | -   | 0.009 | -   | -   | 0.135 |
| HCM Control Delay (s) | 258.1 | 13.2  | 9.5   | -   | -   | 8.9   | -   | -   | 15.7  |
| HCM Lane LOS          | F     | B     | A     | -   | -   | A     | -   | -   | C     |
| HCM 95th %tile Q(veh) | 4.7   | 0.2   | 0.1   | -   | -   | 0     | -   | -   | 0.5   |

| Notes                      |                        |                            |                                |
|----------------------------|------------------------|----------------------------|--------------------------------|
| ~: Volume exceeds capacity | \$: Delay exceeds 300s | +: Computation Not Defined | *: All major volume in platoon |

HCM 6th AWSC  
3: Lake Gulch Rd & Crystal Valley Pkwy

2046 Total  
AM Peak - Signal at #1

| Intersection              |      |
|---------------------------|------|
| Intersection Delay, s/veh | 20.8 |
| Intersection LOS          | C    |

| Movement            | EBL                                                                               | EBR                                                                               | NBL                                                                               | NBT                                                                               | SBT                                                                               | SBR                                                                               |
|---------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|
| Lane Configurations |  |  |  |  |  |  |
| Traffic Vol, veh/h  | 432                                                                               | 30                                                                                | 35                                                                                | 95                                                                                | 45                                                                                | 221                                                                               |
| Future Vol, veh/h   | 432                                                                               | 30                                                                                | 35                                                                                | 95                                                                                | 45                                                                                | 221                                                                               |
| Peak Hour Factor    | 0.93                                                                              | 0.93                                                                              | 0.93                                                                              | 0.93                                                                              | 0.93                                                                              | 0.93                                                                              |
| Heavy Vehicles, %   | 2                                                                                 | 2                                                                                 | 2                                                                                 | 2                                                                                 | 2                                                                                 | 2                                                                                 |
| Mvmt Flow           | 465                                                                               | 32                                                                                | 38                                                                                | 102                                                                               | 48                                                                                | 238                                                                               |
| Number of Lanes     | 1                                                                                 | 1                                                                                 | 1                                                                                 | 1                                                                                 | 1                                                                                 | 1                                                                                 |

| Approach                   | EB   | NB   | SB   |
|----------------------------|------|------|------|
| Opposing Approach          |      | SB   | NB   |
| Opposing Lanes             | 0    | 2    | 2    |
| Conflicting Approach Left  | SB   | EB   |      |
| Conflicting Lanes Left     | 2    | 2    | 0    |
| Conflicting Approach Right | NB   |      | EB   |
| Conflicting Lanes Right    | 2    | 0    | 2    |
| HCM Control Delay          | 28.9 | 10.8 | 11.5 |
| HCM LOS                    | D    | B    | B    |

| Lane                   | NBLn1 | NBLn2 | EBLn1 | EBLn2 | SBLn1 | SBLn2 |
|------------------------|-------|-------|-------|-------|-------|-------|
| Vol Left, %            | 100%  | 0%    | 100%  | 0%    | 0%    | 0%    |
| Vol Thru, %            | 0%    | 100%  | 0%    | 0%    | 100%  | 0%    |
| Vol Right, %           | 0%    | 0%    | 0%    | 100%  | 0%    | 100%  |
| Sign Control           | Stop  | Stop  | Stop  | Stop  | Stop  | Stop  |
| Traffic Vol by Lane    | 35    | 95    | 432   | 30    | 45    | 221   |
| LT Vol                 | 35    | 0     | 432   | 0     | 0     | 0     |
| Through Vol            | 0     | 95    | 0     | 0     | 45    | 0     |
| RT Vol                 | 0     | 0     | 0     | 30    | 0     | 221   |
| Lane Flow Rate         | 38    | 102   | 465   | 32    | 48    | 238   |
| Geometry Grp           | 5     | 5     | 5     | 5     | 5     | 5     |
| Degree of Util (X)     | 0.075 | 0.188 | 0.809 | 0.045 | 0.086 | 0.376 |
| Departure Headway (Hd) | 7.13  | 6.619 | 6.269 | 5.061 | 6.413 | 5.7   |
| Convergence, Y/N       | Yes   | Yes   | Yes   | Yes   | Yes   | Yes   |
| Cap                    | 502   | 540   | 581   | 708   | 558   | 630   |
| Service Time           | 4.886 | 4.375 | 3.997 | 2.79  | 4.163 | 3.45  |
| HCM Lane V/C Ratio     | 0.076 | 0.189 | 0.8   | 0.045 | 0.086 | 0.378 |
| HCM Control Delay      | 10.5  | 10.9  | 30.4  | 8     | 9.8   | 11.9  |
| HCM Lane LOS           | B     | B     | D     | A     | A     | B     |
| HCM 95th-tile Q        | 0.2   | 0.7   | 8     | 0.1   | 0.3   | 1.7   |

# HCM 6th Signalized Intersection Summary

## 1: Loop Rd & Crystal Valley Pkwy

2046 Total  
PM Peak - Signal at #1

|                              |  |  |  |  |  |  |   |  |  |  |  |  |
|------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Movement                     | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | WBR                                                                               | NBL                                                                                 | NBT                                                                                 | NBR                                                                                 | SBL                                                                                 | SBT                                                                                 | SBR                                                                                 |
| Lane Configurations          |  |  |  |  |  |  |  |  |  |  |  |  |
| Traffic Volume (veh/h)       | 29                                                                                | 606                                                                               | 255                                                                               | 116                                                                               | 463                                                                               | 4                                                                                 | 170                                                                                 | 2                                                                                   | 72                                                                                  | 17                                                                                  | 3                                                                                   | 25                                                                                  |
| Future Volume (veh/h)        | 29                                                                                | 606                                                                               | 255                                                                               | 116                                                                               | 463                                                                               | 4                                                                                 | 170                                                                                 | 2                                                                                   | 72                                                                                  | 17                                                                                  | 3                                                                                   | 25                                                                                  |
| Initial Q (Qb), veh          | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                   | 0                                                                                   | 0                                                                                   | 0                                                                                   | 0                                                                                   | 0                                                                                   |
| Ped-Bike Adj(A_pbT)          | 1.00                                                                              |                                                                                   | 1.00                                                                              | 1.00                                                                              |                                                                                   | 1.00                                                                              | 1.00                                                                                |                                                                                     | 1.00                                                                                | 1.00                                                                                |                                                                                     | 1.00                                                                                |
| Parking Bus, Adj             | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                |
| Work Zone On Approach        | No                                                                                |                                                                                   |                                                                                   | No                                                                                |                                                                                   |                                                                                   | No                                                                                  |                                                                                     |                                                                                     | No                                                                                  |                                                                                     |                                                                                     |
| Adj Sat Flow, veh/h/ln       | 1870                                                                              | 1870                                                                              | 1870                                                                              | 1870                                                                              | 1870                                                                              | 1870                                                                              | 1870                                                                                | 1870                                                                                | 1870                                                                                | 1870                                                                                | 1870                                                                                | 1870                                                                                |
| Adj Flow Rate, veh/h         | 32                                                                                | 659                                                                               | 277                                                                               | 126                                                                               | 503                                                                               | 4                                                                                 | 185                                                                                 | 2                                                                                   | 78                                                                                  | 18                                                                                  | 3                                                                                   | 27                                                                                  |
| Peak Hour Factor             | 0.92                                                                              | 0.92                                                                              | 0.92                                                                              | 0.92                                                                              | 0.92                                                                              | 0.92                                                                              | 0.92                                                                                | 0.92                                                                                | 0.92                                                                                | 0.92                                                                                | 0.92                                                                                | 0.92                                                                                |
| Percent Heavy Veh, %         | 2                                                                                 | 2                                                                                 | 2                                                                                 | 2                                                                                 | 2                                                                                 | 2                                                                                 | 2                                                                                   | 2                                                                                   | 2                                                                                   | 2                                                                                   | 2                                                                                   | 2                                                                                   |
| Cap, veh/h                   | 613                                                                               | 2103                                                                              | 938                                                                               | 457                                                                               | 2207                                                                              | 18                                                                                | 376                                                                                 | 392                                                                                 | 332                                                                                 | 73                                                                                  | 11                                                                                  | 44                                                                                  |
| Arrive On Green              | 0.03                                                                              | 0.59                                                                              | 0.59                                                                              | 0.05                                                                              | 0.61                                                                              | 0.61                                                                              | 0.11                                                                                | 0.21                                                                                | 0.21                                                                                | 0.05                                                                                | 0.05                                                                                | 0.05                                                                                |
| Sat Flow, veh/h              | 1781                                                                              | 3554                                                                              | 1585                                                                              | 1781                                                                              | 3613                                                                              | 29                                                                                | 1781                                                                                | 1870                                                                                | 1585                                                                                | 457                                                                                 | 210                                                                                 | 858                                                                                 |
| Grp Volume(v), veh/h         | 32                                                                                | 659                                                                               | 277                                                                               | 126                                                                               | 247                                                                               | 260                                                                               | 185                                                                                 | 2                                                                                   | 78                                                                                  | 48                                                                                  | 0                                                                                   | 0                                                                                   |
| Grp Sat Flow(s),veh/h/ln     | 1781                                                                              | 1777                                                                              | 1585                                                                              | 1781                                                                              | 1777                                                                              | 1865                                                                              | 1781                                                                                | 1870                                                                                | 1585                                                                                | 1525                                                                                | 0                                                                                   | 0                                                                                   |
| Q Serve(g_s), s              | 0.7                                                                               | 9.3                                                                               | 8.6                                                                               | 2.7                                                                               | 6.3                                                                               | 6.3                                                                               | 9.4                                                                                 | 0.1                                                                                 | 4.1                                                                                 | 2.1                                                                                 | 0.0                                                                                 | 0.0                                                                                 |
| Cycle Q Clear(g_c), s        | 0.7                                                                               | 9.3                                                                               | 8.6                                                                               | 2.7                                                                               | 6.3                                                                               | 6.3                                                                               | 9.4                                                                                 | 0.1                                                                                 | 4.1                                                                                 | 3.0                                                                                 | 0.0                                                                                 | 0.0                                                                                 |
| Prop In Lane                 | 1.00                                                                              |                                                                                   | 1.00                                                                              | 1.00                                                                              |                                                                                   | 0.02                                                                              | 1.00                                                                                |                                                                                     | 1.00                                                                                | 0.37                                                                                |                                                                                     | 0.56                                                                                |
| Lane Grp Cap(c), veh/h       | 613                                                                               | 2103                                                                              | 938                                                                               | 457                                                                               | 1086                                                                              | 1139                                                                              | 376                                                                                 | 392                                                                                 | 332                                                                                 | 127                                                                                 | 0                                                                                   | 0                                                                                   |
| V/C Ratio(X)                 | 0.05                                                                              | 0.31                                                                              | 0.30                                                                              | 0.28                                                                              | 0.23                                                                              | 0.23                                                                              | 0.49                                                                                | 0.01                                                                                | 0.23                                                                                | 0.38                                                                                | 0.00                                                                                | 0.00                                                                                |
| Avail Cap(c_a), veh/h        | 686                                                                               | 2103                                                                              | 938                                                                               | 495                                                                               | 1086                                                                              | 1139                                                                              | 378                                                                                 | 468                                                                                 | 396                                                                                 | 185                                                                                 | 0                                                                                   | 0                                                                                   |
| HCM Platoon Ratio            | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                |
| Upstream Filter(I)           | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 0.00                                                                                | 0.00                                                                                |
| Uniform Delay (d), s/veh     | 7.4                                                                               | 10.2                                                                              | 10.1                                                                              | 7.5                                                                               | 8.8                                                                               | 8.8                                                                               | 37.1                                                                                | 31.3                                                                                | 32.9                                                                                | 46.4                                                                                | 0.0                                                                                 | 0.0                                                                                 |
| Incr Delay (d2), s/veh       | 0.0                                                                               | 0.4                                                                               | 0.8                                                                               | 0.3                                                                               | 0.5                                                                               | 0.5                                                                               | 1.0                                                                                 | 0.0                                                                                 | 0.4                                                                                 | 1.9                                                                                 | 0.0                                                                                 | 0.0                                                                                 |
| Initial Q Delay(d3),s/veh    | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               | 0.0                                                                                 | 0.0                                                                                 | 0.0                                                                                 | 0.0                                                                                 | 0.0                                                                                 | 0.0                                                                                 |
| %ile BackOfQ(50%),veh/ln     | 0.2                                                                               | 3.3                                                                               | 2.8                                                                               | 0.9                                                                               | 2.2                                                                               | 2.3                                                                               | 4.1                                                                                 | 0.0                                                                                 | 1.5                                                                                 | 1.2                                                                                 | 0.0                                                                                 | 0.0                                                                                 |
| Unsig. Movement Delay, s/veh |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| LnGrp Delay(d),s/veh         | 7.4                                                                               | 10.6                                                                              | 10.9                                                                              | 7.8                                                                               | 9.3                                                                               | 9.3                                                                               | 38.1                                                                                | 31.3                                                                                | 33.2                                                                                | 48.3                                                                                | 0.0                                                                                 | 0.0                                                                                 |
| LnGrp LOS                    | A                                                                                 | B                                                                                 | B                                                                                 | A                                                                                 | A                                                                                 | A                                                                                 | D                                                                                   | C                                                                                   | C                                                                                   | D                                                                                   | A                                                                                   | A                                                                                   |
| Approach Vol, veh/h          | 968                                                                               |                                                                                   |                                                                                   | 633                                                                               |                                                                                   |                                                                                   | 265                                                                                 |                                                                                     |                                                                                     | 48                                                                                  |                                                                                     |                                                                                     |
| Approach Delay, s/veh        | 10.6                                                                              |                                                                                   |                                                                                   | 9.0                                                                               |                                                                                   |                                                                                   | 36.6                                                                                |                                                                                     |                                                                                     | 48.3                                                                                |                                                                                     |                                                                                     |
| Approach LOS                 | B                                                                                 |                                                                                   |                                                                                   | A                                                                                 |                                                                                   |                                                                                   | D                                                                                   |                                                                                     |                                                                                     | D                                                                                   |                                                                                     |                                                                                     |
| Timer - Assigned Phs         | 2                                                                                 |                                                                                   |                                                                                   | 3                                                                                 |                                                                                   |                                                                                   | 4                                                                                   |                                                                                     |                                                                                     | 5                                                                                   |                                                                                     |                                                                                     |
| Phs Duration (G+Y+Rc), s     | 26.0                                                                              |                                                                                   |                                                                                   | 9.8                                                                               |                                                                                   |                                                                                   | 64.2                                                                                |                                                                                     |                                                                                     | 15.9                                                                                |                                                                                     |                                                                                     |
| Change Period (Y+Rc), s      | 5.0                                                                               |                                                                                   |                                                                                   | 5.0                                                                               |                                                                                   |                                                                                   | 4.5                                                                                 |                                                                                     |                                                                                     | 5.0                                                                                 |                                                                                     |                                                                                     |
| Max Green Setting (Gmax), s  | 25.0                                                                              |                                                                                   |                                                                                   | 7.0                                                                               |                                                                                   |                                                                                   | 53.0                                                                                |                                                                                     |                                                                                     | 11.5                                                                                |                                                                                     |                                                                                     |
| Max Q Clear Time (g_c+I1), s | 6.1                                                                               |                                                                                   |                                                                                   | 4.7                                                                               |                                                                                   |                                                                                   | 11.3                                                                                |                                                                                     |                                                                                     | 11.4                                                                                |                                                                                     |                                                                                     |
| Green Ext Time (p_c), s      | 0.2                                                                               |                                                                                   |                                                                                   | 0.1                                                                               |                                                                                   |                                                                                   | 5.7                                                                                 |                                                                                     |                                                                                     | 0.0                                                                                 |                                                                                     |                                                                                     |
| Intersection Summary         |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| HCM 6th Ctrl Delay           | 14.6                                                                              |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| HCM 6th LOS                  | B                                                                                 |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |

HCM 6th Roundabout  
1: Loop Rd & Crystal Valley Pkwy

2046 Total  
AM Peak - RA at #1

| Intersection                |       |       |       |       |       |       |
|-----------------------------|-------|-------|-------|-------|-------|-------|
| Intersection Delay, s/veh   | 6.9   |       |       |       |       |       |
| Intersection LOS            | A     |       |       |       |       |       |
| Approach                    | EB    |       | WB    |       | NB    | SB    |
| Entry Lanes                 | 2     |       | 2     |       | 1     | 1     |
| Conflicting Circle Lanes    | 2     |       | 2     |       | 2     | 2     |
| Adj Approach Flow, veh/h    | 542   |       | 759   |       | 381   | 43    |
| Demand Flow Rate, veh/h     | 552   |       | 774   |       | 388   | 43    |
| Vehicles Circulating, veh/h | 78    |       | 282   |       | 448   | 1046  |
| Vehicles Exiting, veh/h     | 1011  |       | 554   |       | 182   | 10    |
| Ped Vol Crossing Leg, #/h   | 0     |       | 0     |       | 0     | 0     |
| Ped Cap Adj                 | 1.000 |       | 1.000 |       | 1.000 | 1.000 |
| Approach Delay, s/veh       | 5.5   |       | 7.1   |       | 8.3   | 7.0   |
| Approach LOS                | A     |       | A     |       | A     | A     |
| Lane                        | Left  | Right | Left  | Right | Left  | Left  |
| Designated Moves            | LT    | R     | LT    | TR    | LTR   | LTR   |
| Assumed Moves               | LT    | R     | LT    | TR    | LTR   | LTR   |
| RT Channelized              |       |       |       |       |       |       |
| Lane Util                   | 0.777 | 0.223 | 0.470 | 0.530 | 1.000 | 1.000 |
| Follow-Up Headway, s        | 2.667 | 2.535 | 2.667 | 2.535 | 2.535 | 2.535 |
| Critical Headway, s         | 4.645 | 4.328 | 4.645 | 4.328 | 4.328 | 4.328 |
| Entry Flow, veh/h           | 429   | 123   | 364   | 410   | 388   | 43    |
| Cap Entry Lane, veh/h       | 1256  | 1329  | 1041  | 1117  | 970   | 584   |
| Entry HV Adj Factor         | 0.981 | 0.984 | 0.980 | 0.981 | 0.982 | 0.999 |
| Flow Entry, veh/h           | 421   | 121   | 357   | 402   | 381   | 43    |
| Cap Entry, veh/h            | 1232  | 1307  | 1021  | 1096  | 953   | 583   |
| V/C Ratio                   | 0.341 | 0.093 | 0.350 | 0.367 | 0.400 | 0.074 |
| Control Delay, s/veh        | 6.1   | 3.5   | 7.2   | 7.0   | 8.3   | 7.0   |
| LOS                         | A     | A     | A     | A     | A     | A     |
| 95th %tile Queue, veh       | 2     | 0     | 2     | 2     | 2     | 0     |

HCM 6th TWSC  
2: Idylwood St & Crystal Valley Pkwy

2046 Total  
AM Peak - RA at #1

| Intersection             |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |        |      |                                                                                     |
|--------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|--------|------|-------------------------------------------------------------------------------------|
| Int Delay, s/veh         | 4.6                                                                               |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |        |      |                                                                                     |
| Movement                 | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | WBR                                                                               | NBL                                                                               | NBT                                                                               | NBR                                                                               | SBL    | SBT  | SBR                                                                                 |
| Lane Configurations      |  |  |  |  |  |  |  |  |  |        |      |  |
| Traffic Vol, veh/h       | 14                                                                                | 487                                                                               | 16                                                                                | 7                                                                                 | 635                                                                               | 9                                                                                 | 45                                                                                | 1                                                                                 | 20                                                                                | 0      | 0    | 42                                                                                  |
| Future Vol, veh/h        | 14                                                                                | 487                                                                               | 16                                                                                | 7                                                                                 | 635                                                                               | 9                                                                                 | 45                                                                                | 1                                                                                 | 20                                                                                | 0      | 0    | 42                                                                                  |
| Conflicting Peds, #/hr   | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0      | 0    | 0                                                                                   |
| Sign Control             | Free                                                                              | Free                                                                              | Free                                                                              | Free                                                                              | Free                                                                              | Free                                                                              | Stop                                                                              | Stop                                                                              | Stop                                                                              | Stop   | Stop | Stop                                                                                |
| RT Channelized           | -                                                                                 | -                                                                                 | None                                                                              | -                                                                                 | -                                                                                 | None                                                                              | -                                                                                 | -                                                                                 | None                                                                              | -      | -    | None                                                                                |
| Storage Length           | 255                                                                               | -                                                                                 | 285                                                                               | 225                                                                               | -                                                                                 | 315                                                                               | -                                                                                 | -                                                                                 | -                                                                                 | -      | -    | 0                                                                                   |
| Veh in Median Storage, # | -                                                                                 | 0                                                                                 | -                                                                                 | -                                                                                 | 0                                                                                 | -                                                                                 | -                                                                                 | 0                                                                                 | -                                                                                 | -      | 0    | -                                                                                   |
| Grade, %                 | -                                                                                 | 0                                                                                 | -                                                                                 | -                                                                                 | 0                                                                                 | -                                                                                 | -                                                                                 | 0                                                                                 | -                                                                                 | -      | 0    | -                                                                                   |
| Peak Hour Factor         | 80                                                                                | 80                                                                                | 80                                                                                | 80                                                                                | 80                                                                                | 80                                                                                | 80                                                                                | 80                                                                                | 80                                                                                | 80     | 80   | 80                                                                                  |
| Heavy Vehicles, %        | 2                                                                                 | 2                                                                                 | 2                                                                                 | 2                                                                                 | 2                                                                                 | 2                                                                                 | 2                                                                                 | 2                                                                                 | 2                                                                                 | 2      | 2    | 2                                                                                   |
| Mvmt Flow                | 18                                                                                | 609                                                                               | 20                                                                                | 9                                                                                 | 794                                                                               | 11                                                                                | 56                                                                                | 1                                                                                 | 25                                                                                | 0      | 0    | 53                                                                                  |
| Major/Minor              | Major1                                                                            |                                                                                   |                                                                                   | Major2                                                                            |                                                                                   |                                                                                   | Minor1                                                                            |                                                                                   |                                                                                   | Minor2 |      |                                                                                     |
| Conflicting Flow All     | 805                                                                               | 0                                                                                 | 0                                                                                 | 629                                                                               | 0                                                                                 | 0                                                                                 | 1489                                                                              | 1468                                                                              | 609                                                                               | -      | -    | 794                                                                                 |
| Stage 1                  | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | 645                                                                               | 645                                                                               | -                                                                                 | -      | -    | -                                                                                   |
| Stage 2                  | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | 844                                                                               | 823                                                                               | -                                                                                 | -      | -    | -                                                                                   |
| Critical Hdwy            | 4.12                                                                              | -                                                                                 | -                                                                                 | 4.12                                                                              | -                                                                                 | -                                                                                 | 7.12                                                                              | 6.52                                                                              | 6.22                                                                              | -      | -    | 6.22                                                                                |
| Critical Hdwy Stg 1      | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | 6.12                                                                              | 5.52                                                                              | -                                                                                 | -      | -    | -                                                                                   |
| Critical Hdwy Stg 2      | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | 6.12                                                                              | 5.52                                                                              | -                                                                                 | -      | -    | -                                                                                   |
| Follow-up Hdwy           | 2.218                                                                             | -                                                                                 | -                                                                                 | 2.218                                                                             | -                                                                                 | -                                                                                 | 3.518                                                                             | 4.018                                                                             | 3.318                                                                             | -      | -    | 3.318                                                                               |
| Pot Cap-1 Maneuver       | 819                                                                               | -                                                                                 | -                                                                                 | 953                                                                               | -                                                                                 | -                                                                                 | 102                                                                               | 128                                                                               | 495                                                                               | 0      | 0    | 388                                                                                 |
| Stage 1                  | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | 461                                                                               | 467                                                                               | -                                                                                 | 0      | 0    | -                                                                                   |
| Stage 2                  | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | 358                                                                               | 388                                                                               | -                                                                                 | 0      | 0    | -                                                                                   |
| Platoon blocked, %       | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -      | -    | -                                                                                   |
| Mov Cap-1 Maneuver       | 819                                                                               | -                                                                                 | -                                                                                 | 953                                                                               | -                                                                                 | -                                                                                 | 86                                                                                | 124                                                                               | 495                                                                               | -      | -    | 388                                                                                 |
| Mov Cap-2 Maneuver       | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | 86                                                                                | 124                                                                               | -                                                                                 | -      | -    | -                                                                                   |
| Stage 1                  | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | 451                                                                               | 457                                                                               | -                                                                                 | -      | -    | -                                                                                   |
| Stage 2                  | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | 307                                                                               | 385                                                                               | -                                                                                 | -      | -    | -                                                                                   |
| Approach                 | EB                                                                                |                                                                                   |                                                                                   | WB                                                                                |                                                                                   |                                                                                   | NB                                                                                |                                                                                   |                                                                                   | SB     |      |                                                                                     |
| HCM Control Delay, s     | 0.3                                                                               |                                                                                   |                                                                                   | 0.1                                                                               |                                                                                   |                                                                                   | 75.7                                                                              |                                                                                   |                                                                                   | 15.7   |      |                                                                                     |
| HCM LOS                  |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   | F                                                                                 |                                                                                   |                                                                                   | C      |      |                                                                                     |
| Minor Lane/Major Mvmt    | NBLn1                                                                             | NBLn2                                                                             | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | WBR                                                                               | SBLn1                                                                             |        |      |                                                                                     |
| Capacity (veh/h)         | 86                                                                                | 433                                                                               | 819                                                                               | -                                                                                 | -                                                                                 | 953                                                                               | -                                                                                 | -                                                                                 | 388                                                                               |        |      |                                                                                     |
| HCM Lane V/C Ratio       | 0.654                                                                             | 0.061                                                                             | 0.021                                                                             | -                                                                                 | -                                                                                 | 0.009                                                                             | -                                                                                 | -                                                                                 | 0.135                                                                             |        |      |                                                                                     |
| HCM Control Delay (s)    | 104.6                                                                             | 13.9                                                                              | 9.5                                                                               | -                                                                                 | -                                                                                 | 8.8                                                                               | -                                                                                 | -                                                                                 | 15.7                                                                              |        |      |                                                                                     |
| HCM Lane LOS             | F                                                                                 | B                                                                                 | A                                                                                 | -                                                                                 | -                                                                                 | A                                                                                 | -                                                                                 | -                                                                                 | C                                                                                 |        |      |                                                                                     |
| HCM 95th %tile Q(veh)    | 3.1                                                                               | 0.2                                                                               | 0.1                                                                               | -                                                                                 | -                                                                                 | 0                                                                                 | -                                                                                 | -                                                                                 | 0.5                                                                               |        |      |                                                                                     |

HCM 6th AWSC  
3: Lake Gulch Rd & Crystal Valley Pkwy

2046 Total  
AM Peak - RA at #1

| Intersection              |      |
|---------------------------|------|
| Intersection Delay, s/veh | 20.8 |
| Intersection LOS          | C    |

| Movement            | EBL                                                                               | EBR                                                                               | NBL                                                                               | NBT                                                                               | SBT                                                                               | SBR                                                                               |
|---------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|
| Lane Configurations |  |  |  |  |  |  |
| Traffic Vol, veh/h  | 432                                                                               | 30                                                                                | 35                                                                                | 95                                                                                | 45                                                                                | 221                                                                               |
| Future Vol, veh/h   | 432                                                                               | 30                                                                                | 35                                                                                | 95                                                                                | 45                                                                                | 221                                                                               |
| Peak Hour Factor    | 0.93                                                                              | 0.93                                                                              | 0.93                                                                              | 0.93                                                                              | 0.93                                                                              | 0.93                                                                              |
| Heavy Vehicles, %   | 2                                                                                 | 2                                                                                 | 2                                                                                 | 2                                                                                 | 2                                                                                 | 2                                                                                 |
| Mvmt Flow           | 465                                                                               | 32                                                                                | 38                                                                                | 102                                                                               | 48                                                                                | 238                                                                               |
| Number of Lanes     | 1                                                                                 | 1                                                                                 | 1                                                                                 | 1                                                                                 | 1                                                                                 | 1                                                                                 |

| Approach                   | EB   | NB   | SB   |
|----------------------------|------|------|------|
| Opposing Approach          |      | SB   | NB   |
| Opposing Lanes             | 0    | 2    | 2    |
| Conflicting Approach Left  | SB   | EB   |      |
| Conflicting Lanes Left     | 2    | 2    | 0    |
| Conflicting Approach Right | NB   |      | EB   |
| Conflicting Lanes Right    | 2    | 0    | 2    |
| HCM Control Delay          | 28.9 | 10.8 | 11.5 |
| HCM LOS                    | D    | B    | B    |

| Lane                   | NBLn1 | NBLn2 | EBLn1 | EBLn2 | SBLn1 | SBLn2 |
|------------------------|-------|-------|-------|-------|-------|-------|
| Vol Left, %            | 100%  | 0%    | 100%  | 0%    | 0%    | 0%    |
| Vol Thru, %            | 0%    | 100%  | 0%    | 0%    | 100%  | 0%    |
| Vol Right, %           | 0%    | 0%    | 0%    | 100%  | 0%    | 100%  |
| Sign Control           | Stop  | Stop  | Stop  | Stop  | Stop  | Stop  |
| Traffic Vol by Lane    | 35    | 95    | 432   | 30    | 45    | 221   |
| LT Vol                 | 35    | 0     | 432   | 0     | 0     | 0     |
| Through Vol            | 0     | 95    | 0     | 0     | 45    | 0     |
| RT Vol                 | 0     | 0     | 0     | 30    | 0     | 221   |
| Lane Flow Rate         | 38    | 102   | 465   | 32    | 48    | 238   |
| Geometry Grp           | 5     | 5     | 5     | 5     | 5     | 5     |
| Degree of Util (X)     | 0.075 | 0.188 | 0.809 | 0.045 | 0.086 | 0.376 |
| Departure Headway (Hd) | 7.13  | 6.619 | 6.269 | 5.061 | 6.413 | 5.7   |
| Convergence, Y/N       | Yes   | Yes   | Yes   | Yes   | Yes   | Yes   |
| Cap                    | 502   | 540   | 581   | 708   | 558   | 630   |
| Service Time           | 4.886 | 4.375 | 3.997 | 2.79  | 4.163 | 3.45  |
| HCM Lane V/C Ratio     | 0.076 | 0.189 | 0.8   | 0.045 | 0.086 | 0.378 |
| HCM Control Delay      | 10.5  | 10.9  | 30.4  | 8     | 9.8   | 11.9  |
| HCM Lane LOS           | B     | B     | D     | A     | A     | B     |
| HCM 95th-tile Q        | 0.2   | 0.7   | 8     | 0.1   | 0.3   | 1.7   |

HCM 6th TWSC  
2: Idylwood St & Crystal Valley Pkwy

2046 Total  
PM Peak - Signal at #1

| Intersection             |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |        |      |                                                                                     |
|--------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|------------------------------------------------------------------------------------|--------|------|-------------------------------------------------------------------------------------|
| Int Delay, s/veh         | 4.4                                                                               |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |        |      |                                                                                     |
| Movement                 | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | WBR                                                                               | NBL                                                                               | NBT                                                                               | NBR                                                                                | SBL    | SBT  | SBR                                                                                 |
| Lane Configurations      |  |  |  |  |  |  |  |  |  |        |      |  |
| Traffic Vol, veh/h       | 41                                                                                | 612                                                                               | 42                                                                                | 18                                                                                | 535                                                                               | 28                                                                                | 23                                                                                | 2                                                                                 | 10                                                                                 | 0      | 0    | 27                                                                                  |
| Future Vol, veh/h        | 41                                                                                | 612                                                                               | 42                                                                                | 18                                                                                | 535                                                                               | 28                                                                                | 23                                                                                | 2                                                                                 | 10                                                                                 | 0      | 0    | 27                                                                                  |
| Conflicting Peds, #/hr   | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                  | 0      | 0    | 0                                                                                   |
| Sign Control             | Free                                                                              | Free                                                                              | Free                                                                              | Free                                                                              | Free                                                                              | Free                                                                              | Stop                                                                              | Stop                                                                              | Stop                                                                               | Stop   | Stop | Stop                                                                                |
| RT Channelized           | -                                                                                 | -                                                                                 | None                                                                              | -                                                                                 | -                                                                                 | None                                                                              | -                                                                                 | -                                                                                 | None                                                                               | -      | -    | None                                                                                |
| Storage Length           | 255                                                                               | -                                                                                 | -                                                                                 | 225                                                                               | -                                                                                 | 315                                                                               | -                                                                                 | -                                                                                 | -                                                                                  | -      | -    | 0                                                                                   |
| Veh in Median Storage, # | -                                                                                 | 0                                                                                 | -                                                                                 | -                                                                                 | 0                                                                                 | -                                                                                 | -                                                                                 | 0                                                                                 | -                                                                                  | -      | 0    | -                                                                                   |
| Grade, %                 | -                                                                                 | 0                                                                                 | -                                                                                 | -                                                                                 | 0                                                                                 | -                                                                                 | -                                                                                 | 0                                                                                 | -                                                                                  | -      | 0    | -                                                                                   |
| Peak Hour Factor         | 83                                                                                | 83                                                                                | 83                                                                                | 83                                                                                | 83                                                                                | 83                                                                                | 83                                                                                | 83                                                                                | 83                                                                                 | 83     | 83   | 83                                                                                  |
| Heavy Vehicles, %        | 2                                                                                 | 2                                                                                 | 2                                                                                 | 2                                                                                 | 2                                                                                 | 2                                                                                 | 2                                                                                 | 2                                                                                 | 2                                                                                  | 2      | 2    | 2                                                                                   |
| Mvmt Flow                | 49                                                                                | 737                                                                               | 51                                                                                | 22                                                                                | 645                                                                               | 34                                                                                | 28                                                                                | 2                                                                                 | 12                                                                                 | 0      | 0    | 33                                                                                  |
| Major/Minor              | Major1                                                                            |                                                                                   |                                                                                   | Major2                                                                            |                                                                                   |                                                                                   | Minor1                                                                            |                                                                                   |                                                                                    | Minor2 |      |                                                                                     |
| Conflicting Flow All     | 679                                                                               | 0                                                                                 | 0                                                                                 | 788                                                                               | 0                                                                                 | 0                                                                                 | 1558                                                                              | 1558                                                                              | 737                                                                                | -      | -    | 645                                                                                 |
| Stage 1                  | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | 835                                                                               | 835                                                                               | -                                                                                  | -      | -    | -                                                                                   |
| Stage 2                  | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | 723                                                                               | 723                                                                               | -                                                                                  | -      | -    | -                                                                                   |
| Critical Hdwy            | 4.12                                                                              | -                                                                                 | -                                                                                 | 4.12                                                                              | -                                                                                 | -                                                                                 | 7.12                                                                              | 6.52                                                                              | 6.22                                                                               | -      | -    | 6.22                                                                                |
| Critical Hdwy Stg 1      | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | 6.12                                                                              | 5.52                                                                              | -                                                                                  | -      | -    | -                                                                                   |
| Critical Hdwy Stg 2      | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | 6.12                                                                              | 5.52                                                                              | -                                                                                  | -      | -    | -                                                                                   |
| Follow-up Hdwy           | 2.218                                                                             | -                                                                                 | -                                                                                 | 2.218                                                                             | -                                                                                 | -                                                                                 | 3.518                                                                             | 4.018                                                                             | 3.318                                                                              | -      | -    | 3.318                                                                               |
| Pot Cap-1 Maneuver       | 913                                                                               | -                                                                                 | -                                                                                 | 753                                                                               | -                                                                                 | -                                                                                 | 46                                                                                | 57                                                                                | 523                                                                                | 0      | 0    | 472                                                                                 |
| Stage 1                  | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | 397                                                                               | 371                                                                               | -                                                                                  | 0      | 0    | -                                                                                   |
| Stage 2                  | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | 417                                                                               | 431                                                                               | -                                                                                  | 0      | 0    | -                                                                                   |
| Platoon blocked, %       |                                                                                   | -                                                                                 | -                                                                                 | 1                                                                                 | -                                                                                 | -                                                                                 | 1                                                                                 | 1                                                                                 | 1                                                                                  |        |      |                                                                                     |
| Mov Cap-1 Maneuver       | 913                                                                               | -                                                                                 | -                                                                                 | 753                                                                               | -                                                                                 | -                                                                                 | 40                                                                                | 52                                                                                | 523                                                                                | -      | -    | 472                                                                                 |
| Mov Cap-2 Maneuver       | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | 40                                                                                | 52                                                                                | -                                                                                  | -      | -    | -                                                                                   |
| Stage 1                  | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | 376                                                                               | 351                                                                               | -                                                                                  | -      | -    | -                                                                                   |
| Stage 2                  | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | 377                                                                               | 419                                                                               | -                                                                                  | -      | -    | -                                                                                   |
| Approach                 | EB                                                                                |                                                                                   |                                                                                   | WB                                                                                |                                                                                   |                                                                                   | NB                                                                                |                                                                                   |                                                                                    | SB     |      |                                                                                     |
| HCM Control Delay, s     | 0.5                                                                               |                                                                                   |                                                                                   | 0.3                                                                               |                                                                                   |                                                                                   | 144.2                                                                             |                                                                                   |                                                                                    | 13.2   |      |                                                                                     |
| HCM LOS                  |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   | F                                                                                 |                                                                                   |                                                                                    | B      |      |                                                                                     |
| Minor Lane/Major Mvmt    | NBLn1                                                                             | NBLn2                                                                             | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | WBR                                                                               | SBLn1                                                                              |        |      |                                                                                     |
| Capacity (veh/h)         | 40                                                                                | 208                                                                               | 913                                                                               | -                                                                                 | -                                                                                 | 753                                                                               | -                                                                                 | -                                                                                 | 472                                                                                |        |      |                                                                                     |
| HCM Lane V/C Ratio       | 0.693                                                                             | 0.07                                                                              | 0.054                                                                             | -                                                                                 | -                                                                                 | 0.029                                                                             | -                                                                                 | -                                                                                 | 0.069                                                                              |        |      |                                                                                     |
| HCM Control Delay (s)    | 207.1                                                                             | 23.6                                                                              | 9.2                                                                               | -                                                                                 | -                                                                                 | 9.9                                                                               | -                                                                                 | -                                                                                 | 13.2                                                                               |        |      |                                                                                     |
| HCM Lane LOS             | F                                                                                 | C                                                                                 | A                                                                                 | -                                                                                 | -                                                                                 | A                                                                                 | -                                                                                 | -                                                                                 | B                                                                                  |        |      |                                                                                     |
| HCM 95th %tile Q(veh)    | 2.5                                                                               | 0.2                                                                               | 0.2                                                                               | -                                                                                 | -                                                                                 | 0.1                                                                               | -                                                                                 | -                                                                                 | 0.2                                                                                |        |      |                                                                                     |

HCM 6th AWSC  
3: Lake Gulch Rd & Crystal Valley Pkwy

2046 Total  
PM Peak - Signal at #1

| Intersection              |      |
|---------------------------|------|
| Intersection Delay, s/veh | 18.6 |
| Intersection LOS          | C    |

| Movement            | EBL                                                                               | EBR                                                                               | NBL                                                                               | NBT                                                                               | SBT                                                                               | SBR                                                                               |
|---------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|
| Lane Configurations |  |  |  |  |  |  |
| Traffic Vol, veh/h  | 282                                                                               | 65                                                                                | 55                                                                                | 45                                                                                | 85                                                                                | 445                                                                               |
| Future Vol, veh/h   | 282                                                                               | 65                                                                                | 55                                                                                | 45                                                                                | 85                                                                                | 445                                                                               |
| Peak Hour Factor    | 0.88                                                                              | 0.88                                                                              | 0.88                                                                              | 0.88                                                                              | 0.88                                                                              | 0.88                                                                              |
| Heavy Vehicles, %   | 2                                                                                 | 2                                                                                 | 2                                                                                 | 2                                                                                 | 2                                                                                 | 2                                                                                 |
| Mvmt Flow           | 320                                                                               | 74                                                                                | 63                                                                                | 51                                                                                | 97                                                                                | 506                                                                               |
| Number of Lanes     | 1                                                                                 | 1                                                                                 | 1                                                                                 | 1                                                                                 | 1                                                                                 | 1                                                                                 |

| Approach                   | EB | NB   | SB   |
|----------------------------|----|------|------|
| Opposing Approach          |    | SB   | NB   |
| Opposing Lanes             | 0  | 2    | 2    |
| Conflicting Approach Left  | SB | EB   |      |
| Conflicting Lanes Left     | 2  | 2    | 0    |
| Conflicting Approach Right | NB |      | EB   |
| Conflicting Lanes Right    | 2  | 0    | 2    |
| HCM Control Delay          | 18 | 10.6 | 20.5 |
| HCM LOS                    | C  | B    | C    |

| Lane                   | NBLn1 | NBLn2 | EBLn1 | EBLn2 | SBLn1 | SBLn2 |
|------------------------|-------|-------|-------|-------|-------|-------|
| Vol Left, %            | 100%  | 0%    | 100%  | 0%    | 0%    | 0%    |
| Vol Thru, %            | 0%    | 100%  | 0%    | 0%    | 100%  | 0%    |
| Vol Right, %           | 0%    | 0%    | 0%    | 100%  | 0%    | 100%  |
| Sign Control           | Stop  | Stop  | Stop  | Stop  | Stop  | Stop  |
| Traffic Vol by Lane    | 55    | 45    | 282   | 65    | 85    | 445   |
| LT Vol                 | 55    | 0     | 282   | 0     | 0     | 0     |
| Through Vol            | 0     | 45    | 0     | 0     | 85    | 0     |
| RT Vol                 | 0     | 0     | 0     | 65    | 0     | 445   |
| Lane Flow Rate         | 62    | 51    | 320   | 74    | 97    | 506   |
| Geometry Grp           | 5     | 5     | 5     | 5     | 5     | 5     |
| Degree of Util (X)     | 0.125 | 0.095 | 0.614 | 0.117 | 0.163 | 0.751 |
| Departure Headway (Hd) | 7.196 | 6.685 | 6.895 | 5.683 | 6.057 | 5.347 |
| Convergence, Y/N       | Yes   | Yes   | Yes   | Yes   | Yes   | Yes   |
| Cap                    | 497   | 534   | 522   | 630   | 591   | 673   |
| Service Time           | 4.961 | 4.449 | 4.636 | 3.425 | 3.804 | 3.094 |
| HCM Lane V/C Ratio     | 0.125 | 0.096 | 0.613 | 0.117 | 0.164 | 0.752 |
| HCM Control Delay      | 11    | 10.2  | 20    | 9.2   | 10    | 22.5  |
| HCM Lane LOS           | B     | B     | C     | A     | A     | C     |
| HCM 95th-tile Q        | 0.4   | 0.3   | 4.1   | 0.4   | 0.6   | 6.8   |

HCM 6th Roundabout  
1: Loop Rd & Crystal Valley Pkwy

2046 Total  
PM Peak - RA at #1

| Intersection                |       |       |       |       |       |       |
|-----------------------------|-------|-------|-------|-------|-------|-------|
| Intersection Delay, s/veh   | 8.0   |       |       |       |       |       |
| Intersection LOS            | A     |       |       |       |       |       |
| Approach                    | EB    |       | WB    |       | NB    | SB    |
| Entry Lanes                 | 2     |       | 2     |       | 1     | 1     |
| Conflicting Circle Lanes    | 2     |       | 2     |       | 2     | 2     |
| Adj Approach Flow, veh/h    | 968   |       | 633   |       | 265   | 48    |
| Demand Flow Rate, veh/h     | 988   |       | 646   |       | 271   | 49    |
| Vehicles Circulating, veh/h | 150   |       | 224   |       | 723   | 831   |
| Vehicles Exiting, veh/h     | 730   |       | 770   |       | 415   | 39    |
| Ped Vol Crossing Leg, #/h   | 0     |       | 0     |       | 0     | 0     |
| Ped Cap Adj                 | 1.000 |       | 1.000 |       | 1.000 | 1.000 |
| Approach Delay, s/veh       | 9.0   |       | 5.9   |       | 9.1   | 6.0   |
| Approach LOS                | A     |       | A     |       | A     | A     |
| Lane                        | Left  | Right | Left  | Right | Left  | Left  |
| Designated Moves            | LT    | R     | LT    | TR    | LTR   | LTR   |
| Assumed Moves               | LT    | R     | LT    | TR    | LTR   | LTR   |
| RT Channelized              |       |       |       |       |       |       |
| Lane Util                   | 0.714 | 0.286 | 0.471 | 0.529 | 1.000 | 1.000 |
| Follow-Up Headway, s        | 2.667 | 2.535 | 2.667 | 2.535 | 2.535 | 2.535 |
| Critical Headway, s         | 4.645 | 4.328 | 4.645 | 4.328 | 4.328 | 4.328 |
| Entry Flow, veh/h           | 705   | 283   | 304   | 342   | 271   | 49    |
| Cap Entry Lane, veh/h       | 1176  | 1250  | 1098  | 1174  | 768   | 701   |
| Entry HV Adj Factor         | 0.980 | 0.979 | 0.979 | 0.981 | 0.978 | 0.978 |
| Flow Entry, veh/h           | 691   | 277   | 297   | 335   | 265   | 48    |
| Cap Entry, veh/h            | 1152  | 1224  | 1075  | 1151  | 751   | 686   |
| V/C Ratio                   | 0.600 | 0.226 | 0.277 | 0.291 | 0.353 | 0.070 |
| Control Delay, s/veh        | 10.7  | 4.9   | 6.0   | 5.9   | 9.1   | 6.0   |
| LOS                         | B     | A     | A     | A     | A     | A     |
| 95th %tile Queue, veh       | 4     | 1     | 1     | 1     | 2     | 0     |

HCM 6th TWSC  
2: Idylwood St & Crystal Valley Pkwy

2046 Total  
PM Peak - RA at #1

| Intersection             |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |        |       |                                                                                     |
|--------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|--------|-------|-------------------------------------------------------------------------------------|
| Int Delay, s/veh         | 2.3                                                                               |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |        |       |                                                                                     |
| Movement                 | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | WBR                                                                               | NBL                                                                               | NBT                                                                               | NBR                                                                               | SBL    | SBT   | SBR                                                                                 |
| Lane Configurations      |  |  |  |  |  |  |  |  |  |        |       |  |
| Traffic Vol, veh/h       | 41                                                                                | 600                                                                               | 42                                                                                | 18                                                                                | 535                                                                               | 28                                                                                | 23                                                                                | 2                                                                                 | 10                                                                                | 16     | 2     | 27                                                                                  |
| Future Vol, veh/h        | 41                                                                                | 600                                                                               | 42                                                                                | 18                                                                                | 535                                                                               | 28                                                                                | 23                                                                                | 2                                                                                 | 10                                                                                | 16     | 2     | 27                                                                                  |
| Conflicting Peds, #/hr   | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0      | 0     | 0                                                                                   |
| Sign Control             | Free                                                                              | Free                                                                              | Free                                                                              | Free                                                                              | Free                                                                              | Free                                                                              | Stop                                                                              | Stop                                                                              | Stop                                                                              | Stop   | Stop  | Stop                                                                                |
| RT Channelized           | -                                                                                 | -                                                                                 | None                                                                              | -                                                                                 | -                                                                                 | None                                                                              | -                                                                                 | -                                                                                 | None                                                                              | -      | -     | None                                                                                |
| Storage Length           | 255                                                                               | -                                                                                 | 285                                                                               | 225                                                                               | -                                                                                 | 315                                                                               | -                                                                                 | -                                                                                 | -                                                                                 | -      | -     | 0                                                                                   |
| Veh in Median Storage, # | -                                                                                 | 0                                                                                 | -                                                                                 | -                                                                                 | 0                                                                                 | -                                                                                 | -                                                                                 | 0                                                                                 | -                                                                                 | -      | 0     | -                                                                                   |
| Grade, %                 | -                                                                                 | 0                                                                                 | -                                                                                 | -                                                                                 | 0                                                                                 | -                                                                                 | -                                                                                 | 0                                                                                 | -                                                                                 | -      | 0     | -                                                                                   |
| Peak Hour Factor         | 83                                                                                | 83                                                                                | 83                                                                                | 83                                                                                | 83                                                                                | 83                                                                                | 83                                                                                | 83                                                                                | 83                                                                                | 83     | 83    | 83                                                                                  |
| Heavy Vehicles, %        | 2                                                                                 | 2                                                                                 | 2                                                                                 | 2                                                                                 | 2                                                                                 | 2                                                                                 | 2                                                                                 | 2                                                                                 | 2                                                                                 | 2      | 2     | 2                                                                                   |
| Mvmt Flow                | 49                                                                                | 723                                                                               | 51                                                                                | 22                                                                                | 645                                                                               | 34                                                                                | 28                                                                                | 2                                                                                 | 12                                                                                | 19     | 2     | 33                                                                                  |
|                          |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |        |       |                                                                                     |
| Major/Minor              | Major1                                                                            |                                                                                   |                                                                                   | Major2                                                                            |                                                                                   |                                                                                   | Minor1                                                                            |                                                                                   |                                                                                   | Minor2 |       |                                                                                     |
| Conflicting Flow All     | 679                                                                               | 0                                                                                 | 0                                                                                 | 774                                                                               | 0                                                                                 | 0                                                                                 | 1545                                                                              | 1544                                                                              | 723                                                                               | 1543   | 1561  | 645                                                                                 |
| Stage 1                  | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | 821                                                                               | 821                                                                               | -                                                                                 | 689    | 689   | -                                                                                   |
| Stage 2                  | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | 724                                                                               | 723                                                                               | -                                                                                 | 854    | 872   | -                                                                                   |
| Critical Hdwy            | 4.12                                                                              | -                                                                                 | -                                                                                 | 4.12                                                                              | -                                                                                 | -                                                                                 | 7.12                                                                              | 6.52                                                                              | 6.22                                                                              | 7.12   | 6.52  | 6.22                                                                                |
| Critical Hdwy Stg 1      | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | 6.12                                                                              | 5.52                                                                              | -                                                                                 | 6.12   | 5.52  | -                                                                                   |
| Critical Hdwy Stg 2      | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | 6.12                                                                              | 5.52                                                                              | -                                                                                 | 6.12   | 5.52  | -                                                                                   |
| Follow-up Hdwy           | 2.218                                                                             | -                                                                                 | -                                                                                 | 2.218                                                                             | -                                                                                 | -                                                                                 | 3.518                                                                             | 4.018                                                                             | 3.318                                                                             | 3.518  | 4.018 | 3.318                                                                               |
| Pot Cap-1 Maneuver       | 913                                                                               | -                                                                                 | -                                                                                 | 842                                                                               | -                                                                                 | -                                                                                 | 93                                                                                | 115                                                                               | 426                                                                               | 94     | 112   | 472                                                                                 |
| Stage 1                  | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | 369                                                                               | 389                                                                               | -                                                                                 | 436    | 446   | -                                                                                   |
| Stage 2                  | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | 417                                                                               | 431                                                                               | -                                                                                 | 353    | 368   | -                                                                                   |
| Platoon blocked, %       |                                                                                   | -                                                                                 | -                                                                                 |                                                                                   | -                                                                                 | -                                                                                 |                                                                                   |                                                                                   |                                                                                   |        |       |                                                                                     |
| Mov Cap-1 Maneuver       | 913                                                                               | -                                                                                 | -                                                                                 | 842                                                                               | -                                                                                 | -                                                                                 | 80                                                                                | 106                                                                               | 426                                                                               | 84     | 103   | 472                                                                                 |
| Mov Cap-2 Maneuver       | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | 80                                                                                | 106                                                                               | -                                                                                 | 84     | 103   | -                                                                                   |
| Stage 1                  | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | 349                                                                               | 368                                                                               | -                                                                                 | 412    | 434   | -                                                                                   |
| Stage 2                  | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | 376                                                                               | 420                                                                               | -                                                                                 | 322    | 348   | -                                                                                   |
|                          |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |        |       |                                                                                     |
|                          |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |        |       |                                                                                     |
| Approach                 | EB                                                                                |                                                                                   |                                                                                   | WB                                                                                |                                                                                   |                                                                                   | NB                                                                                |                                                                                   |                                                                                   | SB     |       |                                                                                     |
| HCM Control Delay, s     | 0.6                                                                               |                                                                                   |                                                                                   | 0.3                                                                               |                                                                                   |                                                                                   | 53.8                                                                              |                                                                                   |                                                                                   | 13.2   |       |                                                                                     |
| HCM LOS                  |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   | F                                                                                 |                                                                                   |                                                                                   | B      |       |                                                                                     |
|                          |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |        |       |                                                                                     |
| Minor Lane/Major Mvmt    | NBLn1 NBLn2                                                                       |                                                                                   | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | WBR                                                                               | SBLn1                                                                             |        |       |                                                                                     |
| Capacity (veh/h)         | 80                                                                                | 283                                                                               | 913                                                                               | -                                                                                 | -                                                                                 | 842                                                                               | -                                                                                 | -                                                                                 | 472                                                                               |        |       |                                                                                     |
| HCM Lane V/C Ratio       | 0.346                                                                             | 0.051                                                                             | 0.054                                                                             | -                                                                                 | -                                                                                 | 0.026                                                                             | -                                                                                 | -                                                                                 | 0.069                                                                             |        |       |                                                                                     |
| HCM Control Delay (s)    | 72.2                                                                              | 18.4                                                                              | 9.2                                                                               | -                                                                                 | -                                                                                 | 9.4                                                                               | -                                                                                 | -                                                                                 | 13.2                                                                              |        |       |                                                                                     |
| HCM Lane LOS             | F                                                                                 | C                                                                                 | A                                                                                 | -                                                                                 | -                                                                                 | A                                                                                 | -                                                                                 | -                                                                                 | B                                                                                 |        |       |                                                                                     |
| HCM 95th %tile Q(veh)    | 1.3                                                                               | 0.2                                                                               | 0.2                                                                               | -                                                                                 | -                                                                                 | 0.1                                                                               | -                                                                                 | -                                                                                 | 0.2                                                                               |        |       |                                                                                     |

HCM 6th AWSC  
3: Lake Gulch Rd & Crystal Valley Pkwy

2046 Total  
PM Peak - RA at #1

| Intersection              |      |
|---------------------------|------|
| Intersection Delay, s/veh | 18.6 |
| Intersection LOS          | C    |

| Movement            | EBL                                                                               | EBR                                                                               | NBL                                                                               | NBT                                                                               | SBT                                                                               | SBR                                                                               |
|---------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|
| Lane Configurations |  |  |  |  |  |  |
| Traffic Vol, veh/h  | 282                                                                               | 65                                                                                | 55                                                                                | 45                                                                                | 85                                                                                | 445                                                                               |
| Future Vol, veh/h   | 282                                                                               | 65                                                                                | 55                                                                                | 45                                                                                | 85                                                                                | 445                                                                               |
| Peak Hour Factor    | 0.88                                                                              | 0.88                                                                              | 0.88                                                                              | 0.88                                                                              | 0.88                                                                              | 0.88                                                                              |
| Heavy Vehicles, %   | 2                                                                                 | 2                                                                                 | 2                                                                                 | 2                                                                                 | 2                                                                                 | 2                                                                                 |
| Mvmt Flow           | 320                                                                               | 74                                                                                | 63                                                                                | 51                                                                                | 97                                                                                | 506                                                                               |
| Number of Lanes     | 1                                                                                 | 1                                                                                 | 1                                                                                 | 1                                                                                 | 1                                                                                 | 1                                                                                 |

| Approach                   | EB | NB   | SB   |
|----------------------------|----|------|------|
| Opposing Approach          |    | SB   | NB   |
| Opposing Lanes             | 0  | 2    | 2    |
| Conflicting Approach Left  | SB | EB   |      |
| Conflicting Lanes Left     | 2  | 2    | 0    |
| Conflicting Approach Right | NB |      | EB   |
| Conflicting Lanes Right    | 2  | 0    | 2    |
| HCM Control Delay          | 18 | 10.6 | 20.5 |
| HCM LOS                    | C  | B    | C    |

| Lane                   | NBLn1 | NBLn2 | EBLn1 | EBLn2 | SBLn1 | SBLn2 |
|------------------------|-------|-------|-------|-------|-------|-------|
| Vol Left, %            | 100%  | 0%    | 100%  | 0%    | 0%    | 0%    |
| Vol Thru, %            | 0%    | 100%  | 0%    | 0%    | 100%  | 0%    |
| Vol Right, %           | 0%    | 0%    | 0%    | 100%  | 0%    | 100%  |
| Sign Control           | Stop  | Stop  | Stop  | Stop  | Stop  | Stop  |
| Traffic Vol by Lane    | 55    | 45    | 282   | 65    | 85    | 445   |
| LT Vol                 | 55    | 0     | 282   | 0     | 0     | 0     |
| Through Vol            | 0     | 45    | 0     | 0     | 85    | 0     |
| RT Vol                 | 0     | 0     | 0     | 65    | 0     | 445   |
| Lane Flow Rate         | 62    | 51    | 320   | 74    | 97    | 506   |
| Geometry Grp           | 5     | 5     | 5     | 5     | 5     | 5     |
| Degree of Util (X)     | 0.125 | 0.095 | 0.614 | 0.117 | 0.163 | 0.751 |
| Departure Headway (Hd) | 7.196 | 6.685 | 6.895 | 5.683 | 6.057 | 5.347 |
| Convergence, Y/N       | Yes   | Yes   | Yes   | Yes   | Yes   | Yes   |
| Cap                    | 497   | 534   | 522   | 630   | 591   | 673   |
| Service Time           | 4.961 | 4.449 | 4.636 | 3.425 | 3.804 | 3.094 |
| HCM Lane V/C Ratio     | 0.125 | 0.096 | 0.613 | 0.117 | 0.164 | 0.752 |
| HCM Control Delay      | 11    | 10.2  | 20    | 9.2   | 10    | 22.5  |
| HCM Lane LOS           | B     | B     | C     | A     | A     | C     |
| HCM 95th-tile Q        | 0.4   | 0.3   | 4.1   | 0.4   | 0.6   | 6.8   |