

# Appendix D

---

Tahoe XC Lodge Project  
Transportation Analysis



# Tahoe XC Lodge Project Transportation Analysis

Prepared for

Ascent Environmental

# TAHOE CROSS-COUNTRY LODGE PROJECT TRANSPORTATION IMPACT ANALYSIS

*Prepared for*

Ascent Environmental, Inc.  
128 Market Street, Suite 3E  
P. O. Box 5022  
Stateline, NV 89449  
775-339-1420

*Prepared by*

LSC Transportation Consultants, Inc.  
2690 Lake Forest Road, Suite C  
P. O. Box 5875  
Tahoe City, CA 96145  
(530) 583-4053  
FAX: (530) 583-5966

December 12, 2019

LSC #177490

## TABLE OF CONTENTS

| SECTION                                       | PAGE |
|---|------|
| 1 INTRODUCTION .....                          | 1    |
| Scope of Study .....                          | 1    |
| 2 EXISTING CONDITIONS .....                   | 3    |
| Existing Setting .....                        | 3    |
| 3 PROPOSED PROJECT .....                      | 11   |
| Project Description .....                     | 11   |
| Trip Generation .....                         | 11   |
| Trip Distribution and Assignment .....        | 19   |
| 4 FUTURE CUMULATIVE CONDITIONS .....          | 27   |
| 5 LEVEL OF SERVICE ANALYSIS .....             | 33   |
| Description .....                             | 33   |
| Level of Service Standards.....               | 33   |
| Intersection Level of Service Analysis .....  | 34   |
| 6 PARKING ANALYSIS.....                       | 37   |
| 7 TRANSPORTATION SAFETY ANALYSIS.....         | 51   |
| Historical Crash Data .....                   | 51   |
| Proposed Driveway Spacing .....               | 57   |
| Speed Surveys .....                           | 58   |
| Driver Sight Distance .....                   | 59   |
| Bicycle and Pedestrian Conditions .....       | 61   |
| 8 IMPACTS AND MITIGATION.....                 | 65   |
| Impact on Daily Roadway Volumes .....         | 65   |
| Impacts on Intersection Level of Service..... | 67   |
| VMT Impact .....                              | 67   |
| Parking Impacts .....                         | 68   |
| Transportation Safety Impacts .....           | 70   |
| Mitigation Summary .....                      | 71   |

**Appendix A** – Traffic Count Data

**Appendix B** – Summer Intersection Volumes from Previous Analysis

**Appendix C** – Level of Service Descriptions

**Appendix D** – LOS Output

## LIST OF TABLES

| TABLE   | PAGE |
|---|------|
| 1 Tahoe XC Winter Trip Generation – Proposed Project (Site D).....        | 13   |
| 2 Tahoe XC Winter Trip Generation –Project Alternative (Site A) .....     | 16   |
| 3 Tahoe XC Summer Trip Generation – Proposed Project (Site D) .....       | 17   |
| 4 Tahoe XC Summer Trip Generation – Project Alternative (Site A).....     | 20   |
| 5 Tahoe XC Winter Intersection Level of Service .....                     | 35   |
| 6 Tahoe XC Summer Intersection Level of Service.....                      | 35   |
| 7 Winter Parking Counts .....   | 38   |
| 8 Tahoe XC Winter Parking Demand Existing Site.....                       | 39   |
| 9 Tahoe XC Winter Additional Parking Demand .....                         | 41   |
| 10 Days Per Season By Peak Parking Demand .....                           | 43   |
| 11 Summer Parking Counts.....   | 46   |
| 12 Tahoe XC Summer Parking Demand on typical Busy Day .....               | 47   |
| 13 Tahoe XC Summer Parking Demand During Large Event at High School ..... | 48   |
| 14 Crash Data Summary by Intersection Location .....                      | 52   |
| 15 Intersection Crash Rates .....   | 54   |
| 16 Summary of Crash Data by Roadway .....                                 | 55   |
| 17 Roadway Crash Rates .....  | 56   |
| 18 Speed Survey Results in Highlands Community.....                       | 58   |
| 19 Tahoe XC Ski Area Summer Weekday Bike/Ped Volumes.....                 | 62   |
| 20 Daily Winter 2-Way Roadway Volumes .....                               | 66   |
| 21 Daily Summer 2-Way Roadway Volumes.....                                | 66   |
| 22 Tahoe XC Vehicle Miles Traveled – Summer .....                         | 68   |

## LIST OF FIGURES

| FIGURE  | PAGE |
|---|------|
| 1 Site and Location Map.....  | 4    |
| 2 Winter Existing No Project Volumes .....                          | 6    |
| 3 Summer Existing No Project Volumes .....                          | 8    |
| 4 Winter Net impact – Proposed Project (Site D) .....               | 22   |
| 5 Winter Net impact – Project Alternate (Site A).....               | 23   |
| 6 Winter Existing With Proposed Project (Site D) .....              | 24   |
| 7 Winter Existing With Alternate Project (Site A) .....             | 25   |
| 8 Winter Future No Project.....                                     | 29   |
| 9 Winter Future With Proposed Project (Site D).....                 | 30   |
| 10 Winter Future With Project Alternate (Site A).....               | 31   |
| 11 Estimated Daily Parking Demand at Tahoe City Cross Country ..... | 40   |

This engineering report documents the findings and conclusions regarding transportation impacts of the replacement and expansion of the Tahoe Cross-Country (Tahoe XC) lodge near Tahoe City, California. This new lodge is evaluated for the proposed relocated site on Polaris Road just east of the North Tahoe High School (Alternative D), as well as for the existing site location on Country Club Drive (Alternative A). This analysis considers impacts in both the winter and summer seasons. Traffic and parking data were collected during the 2015/2016 ski season as a part of the original study conducted for this project. The 2015/2016 data is used as the basis for the winter analysis for this updated, expanded study. Based on a review of Tahoe XC skier data from recent seasons (2016/2017 and 2017/2018), as well as snowfall data over the past few seasons, the 2015/2016 data is considered a reasonable data set in terms of evaluating impacts. Additionally, the project assumptions from the original study have been revised to include additional event activities at the proposed lodge site, as well as implementation of a potential community center at the existing lodge site. Supplemental data was also collected in 2018 and 2019 to support the analysis herein.

## **SCOPE OF STUDY**

This traffic engineering study analyzes traffic data and intersection level of service on a midweek day in the winter and on a summer day at the following intersections:

- Polaris Road / Village Way
- Polaris Road / Old Mill Road
- State Route (SR) 28 / Fabian Way
- SR 28 / Old Mill Road

Additionally, winter weekend/holiday traffic data is analyzed at the following intersections:

- SR 28/Fabian Way
- SR 28/Old Mill Road

Changes in daily roadway volumes are analyzed at the following locations:

- Polaris Road Near High School
- Village Road just southwest of Country Club Drive
- Country Club Drive north of the existing Tahoe XC lodge location

Bicycle and pedestrian traffic are analyzed at the following three intersection locations:

- Polaris Road / Village Way
- Polaris Road / Old Mill Road
- Polaris Road / High School Driveway

Finally, parking conditions, impacts to regional Vehicle Miles Traveled (VMT), and transportation safety impacts are analyzed as a part of this study.

This section documents the existing setting and operational traffic conditions in the vicinity of Tahoe XC, providing a foundation for comparison to future conditions. Existing roadway conditions are studied to identify if the roadways are currently operating in a safe and efficient manner. The site location is shown in Figure 1.

## **EXISTING SETTING**

Tahoe XC is located in the northeastern portion of Tahoe City, within Placer County, on the north shore of Lake Tahoe. The current lodge is located on Country Club Drive, which is accessed from State Route (SR) 28 via Fabian Way and Village Road. Tahoe XC provides winter cross-country ski and snowshoe opportunities, and is opened when snow conditions allow. It also operates as a trailhead for hiking and mountain biking in the summer months, though activity levels are generally higher in winter.

### **Existing Roadways**

The roadways within the study area are described below.

#### State Route 28

SR 28 is a two-lane roadway beginning in Tahoe City, California at SR 89, extending east along the north and east shores of Lake Tahoe, and terminates at US 50. SR 28 connects the north shore communities of Tahoe City, Dollar Point, Tahoe Vista, Carnelian Bay, Kings Beach, Brockway, and Incline Village. Traffic volumes along SR 28 exhibit strong seasonal variation, with the highest traffic activity during the summer. Caltrans reports that the peak month Average Daily Traffic (ADT) on SR 28 in the project vicinity is 14,500 vehicles per day, based on a count location to the east of Lardin Way. The posted speed limit on SR 28 near the project area is 45 miles per hour.

#### Old Mill Road

Old Mill Road is a north/south running residential street off of SR 28, which connects to Polaris Road to the north. Though it is possible to access the current Tahoe XC lodge site via Old Mill Road, it is not the preferred route as it is both steeper and longer.

#### Fabian Way

Fabian Way is a residential street connecting SR 28 on the south and Village Road to the north, and extending west to Old Mill Road. Those traveling to and from Tahoe XC use Fabian Way for



**Figure 1  
Site Location**



Source: Esri, DigitalGlobe, GeoEye, Earthstar, USDA, USGS, AEX, Getmapping, Aerotrid, IGN, IGN, swisstopo, and the GIS User Community

a short distance (400 feet) between SR 28 and Village Road. This short segment of Fabian Way provides access to commercial uses, and in the future may provide access to the proposed Dollar Creek Crossing project.

### Village Road

Village Road is a residential street connecting Fabian Way at the south and Country Club Drive to the north. It is the main access route for the current Tahoe XC base area and lodge.

### Polaris Road

Polaris Road is an east-west roadway serving single-family homes. It also serves as the sole public access to the North Tahoe High School and Middle School at the west end. On the east, Polaris Road terminates about 630 feet east of Village Road. The western portion carries approximately 1,400 daily one-way vehicle trips on a school day.

### **Existing Traffic Volumes**

The review of existing traffic volumes focuses on the “PM peak hour” – the hour of the afternoon/evening when the highest traffic activity is observed to occur<sup>1</sup>.

### Winter Traffic Volumes

Traffic volume counts were collected at various locations near the project site. Intersection turning movements were counted during the winter at the following locations:

- SR 28 / Fabian Way (Winter Weekend/Holiday included)
- SR 28 / Old Mill Road (Winter Weekend/Holiday included)
- Polaris Road / Old Mill Road
- Polaris Road / Village Way

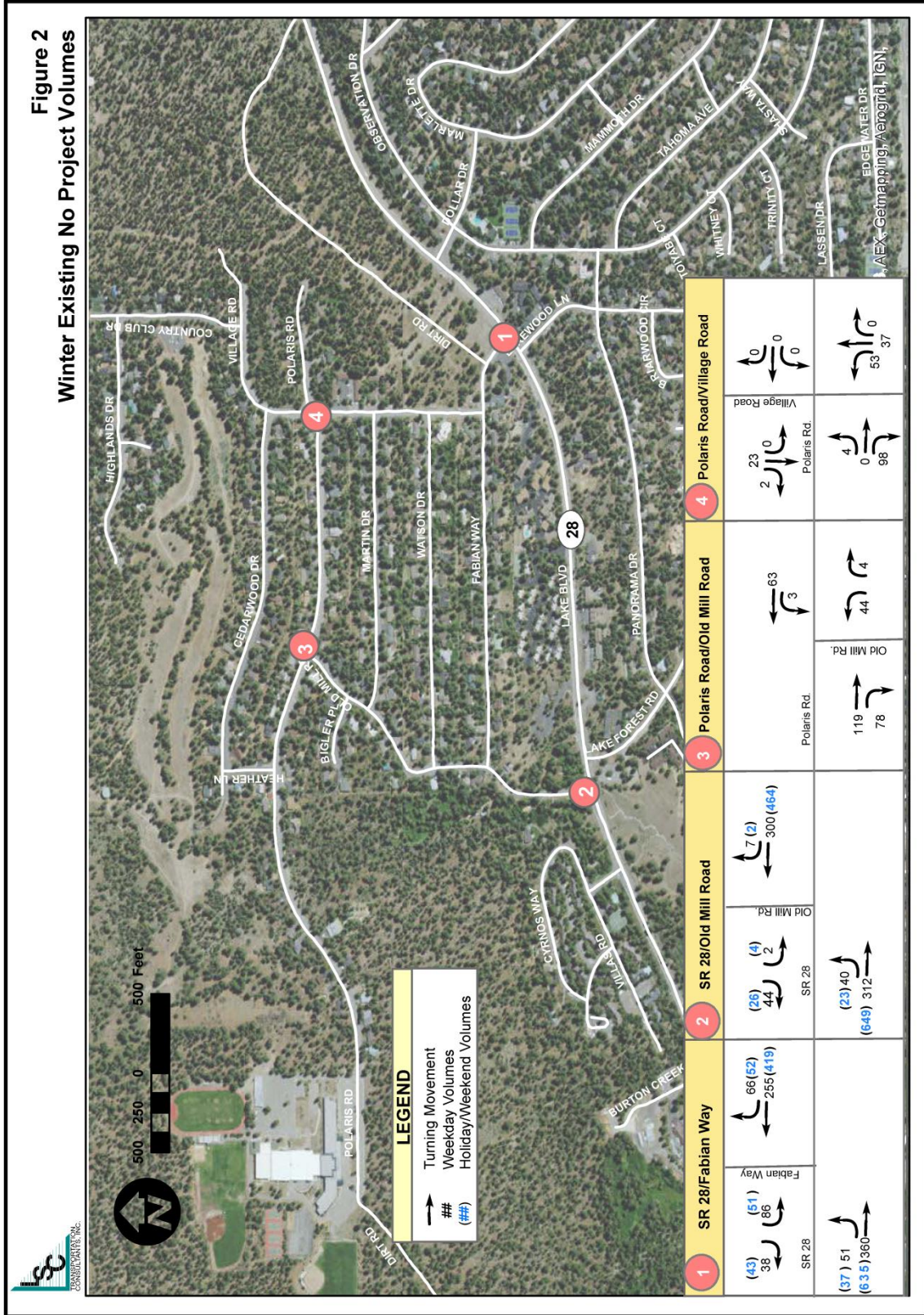
The winter weekend/holiday intersection turning-movement counts were conducted on Thursday, December 31, 2015 (New Year’s Eve day). The weekday (school day) intersection turning movement counts were conducted during the afternoon peak periods of school-related traffic activity on January 12, 13, 14 and 19, 2016. The count data is included in Appendix A, and the resulting winter PM peak-hour traffic volumes are presented in Figure 2. No significant weather issues impacted traffic volumes on any of the count days. The winter weekday PM peak hour in the neighborhood typically occurs during the afternoon when the schools let out.

The winter weekend/holiday PM peak hour occurred from 4 PM to 5 PM on the day of the traffic counts (which was New Year’s Eve day). However, the timing of the weekend/holiday PM

---

<sup>1</sup> The busiest hour of traffic activity in the morning is observed to be lower than the afternoon/evening peak hour.

**Figure 2**  
**Winter Existing No Project Volumes**



peak hour is variable, depending on what day it is. Based on a review of Tahoe XC skier data from recent seasons (16/17 and 17/18), as well as snowfall data over the past few seasons, the 15/16 data is considered to be a reasonable data set in terms of evaluating impacts.

In addition, 24-hour roadway volume counts for were conducted at the following locations:

- Polaris Road near east of the eastern High School driveway (weekday)
- Village Road just southwest of Country Club Drive (holiday)
- Country Club Drive north of the existing Cross Country Center (holiday)

The roadway volumes used to calculate trip generation were collected from Wednesday, December 30, 2015 through Tuesday, January 5, 2016. Weekday volumes were collected from Wednesday, January 13 through Tuesday, January 19, 2016. The purpose of the two data collection periods was to capture both typical conditions (during a school day) and peak ski traffic conditions. While the holiday period generates the highest skier volumes, the school traffic periods typically generate the highest existing traffic volumes in the neighborhood.

### Summer Traffic Volumes

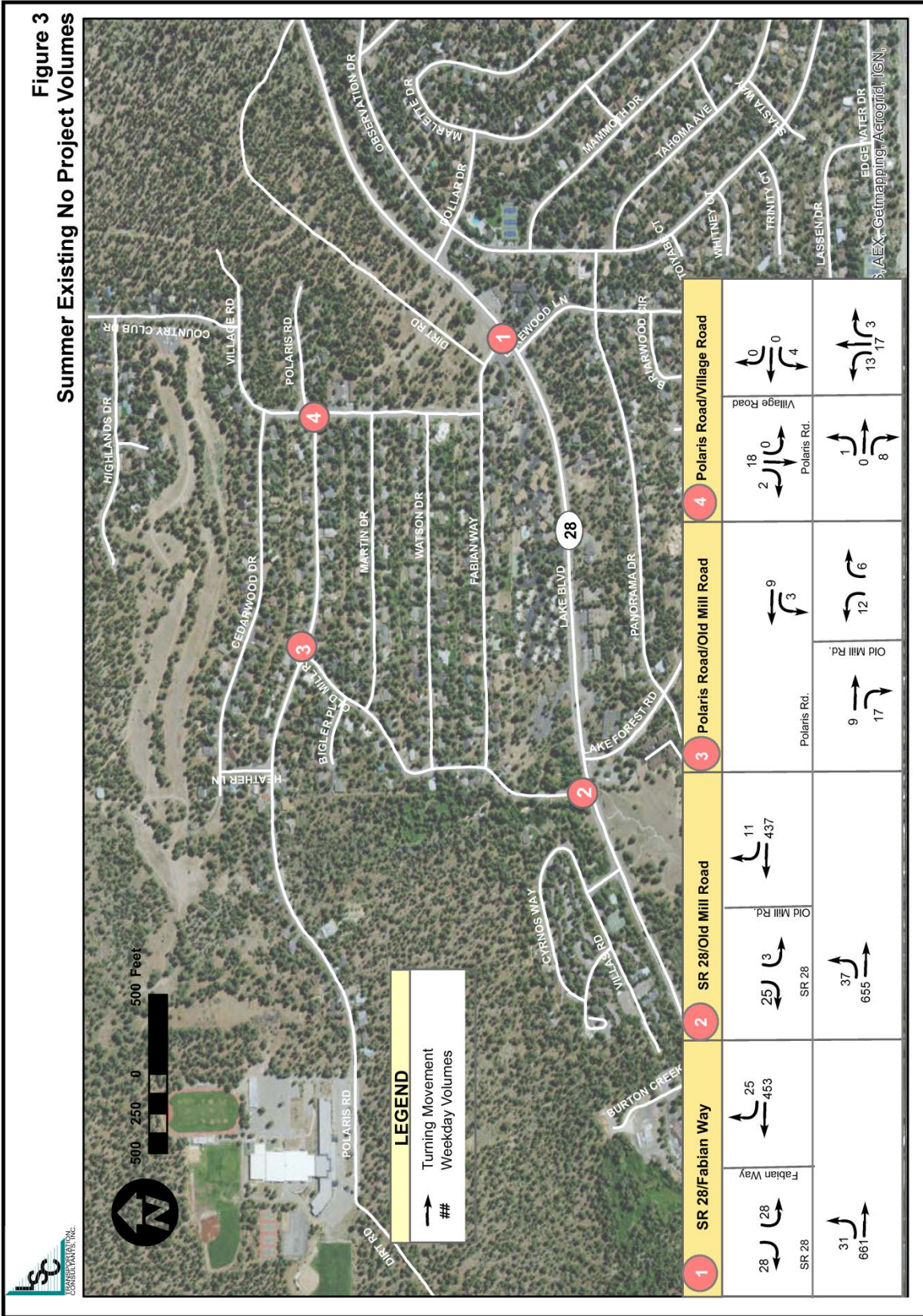
In summer, the highest daily traffic volumes in the Dollar Hill area typically occur on Fridays. The summer intersection turning-movement counts were collected on Friday, August 10, 2018. The traffic count data is presented in Appendix A. The resulting summer PM peak-hour traffic volumes are presented in Figure 3. The roadway volumes used to calculate trip generation were collected at the same locations as the winter counts, from Thursday, August 9, 2018 to Monday, August 13, 2018. The roadway volumes were collected using pneumatic road tubes and radar-counting machine. The primary purpose of the data collection periods was to capture both typical summer weekend conditions and summer weekday conditions.

The highest daily traffic volumes during the count period occurred on Friday, August 10, 2018 (the same day the intersection counts were conducted). The time of the summer PM peak hour varies in this area. This study assumes the PM peak hour of site-generated traffic coincides with PM peak hour of adjacent street traffic, in order to yield conservatively high traffic volumes. In summer, the highest daily traffic volumes typically occur on Fridays, although this study doesn't specify whether the project generates more traffic on summer weekends or weekdays. This study assumes the design day for the XC site-generated traffic coincides with high daily traffic volumes on adjacent roadways.

### Recent Trends in Traffic Volumes

While scheduled traffic counts on County streets are not conducted, Caltrans has an ongoing program of traffic counts reported on an annual basis on all state routes. In the study area, Caltrans reports counts for the SR 28 segment between Tahoe State Park (just east of Tahoe City) and Lake Forest Road (western intersection) and between Lake Forest Road and Lardin Way (in Carnelian Bay). The most recent available counts are for 2017. Caltrans reports both

**Figure 3**  
**Summer Existing No Project Volumes**



Annual Average Daily Traffic (AADT) volumes, as well as Peak Month Average Daily Traffic (PMADT) volumes. The peak month is generally in July.

- West of Lake Forest Road
  - PMADT – 17,400 in 2007, 16,200 in 2012, 16,500 in 2016, 16,500 in 2017
  - Total PMADT change – 2 percent increase from 2012 to 2017, 5 percent decrease from 2007 to 2017
  - ADT – 13,600 in 2007, 11,600 in 2012, 12,300 in 2016, 12,300 in 2017
  - Total ADT change – 6 percent increase from 2012 to 2017, 10 percent decrease from 2007 to 2017
  
- East of Lake Forest Road
  - PMADT – 14,100 in 2007, 13,700 in 2012, 14,500 in 2016, 14,500 in 2017
  - Total PMADT change – 6 percent increase from 2012 to 2017, 3 percent increase from 2007 to 2017
  - ADT – 11,300 in 2007, 11,000 in 2012, 11,200 in 2016, 11,200 in 2017
  - Total ADT change – 2 percent increase from 2012 to 2017, 1 percent decrease from 2007 to 2017

Overall, these counts indicate a modest decline from 2007 to 2012, followed by a modest increase to 2017. Overall traffic volumes in 2017 are similar or slightly lower than in 2007.

This page intentionally left blank.

The project location, the size of the project, and when it will be completed are all important elements that need to be considered to determine the impacts of the project on traffic safety and capacity. It is also important to examine how the project will operate within the existing transportation system, estimate how much new traffic will be generated, and predict where traffic generated by the site will be distributed.

## **PROJECT DESCRIPTION**

The proposed Tahoe XC Project would consist of construction of a new lodge. The new lodge is proposed to be built at a new site at the west end of Polaris Road near the North Tahoe High School (Site D). Alternatively, replacement of the existing lodge at the existing site on Country Club Drive (Site A) is also studied. Although these two project options were included in the original 2016 transportation analysis, this updated, expanded study reflects additional event activities at the proposed lodge site, as well as implementation of a potential community center at the existing lodge site. An analysis of summer conditions is also provided, which was not included in the original study.

### **Vehicular Access**

Properly located access points are essential to allow for the safe and orderly movement of traffic in and out of a site. Recognizing this fact, Placer County has enacted ordinances to assure their proper placement. Full access to and from the proposed project site (Site D) is proposed to be provided via a new driveway on the north side of Polaris Road, immediately east of the high school driveway. Additionally, a connection between the school property and the project site would be constructed and would include a gate that would be locked for safety during school hours and when not needed. Under the project alternative (Site A), access to the site would be provided from Country Club Drive, consistent with existing conditions.

### **TRIP GENERATION**

The first step in the analysis of future traffic impacts is to prepare an estimate of the number of one-way vehicle-trips generated by the proposed project. Trip generation is the evaluation of the number of vehicle-trips that would either have an origin or destination at the project site. As a cross-country ski resort is not a standard land use found in the Institute of Transportation Engineers (ITE) *Trip Generation* manual, trip generation is based on the existing trips currently generated by the existing facility, as well as the change in activities anticipated with the new facility. As standard trip generation rates are not provided for a cross-country ski lodge or community center, the trip generation of the project is estimated based upon a “person-trip analysis.” Multiplying the number of persons visiting the site per day by the number of one-way person-trips per day (1 entering and 1 exiting) and dividing by the average vehicle occupancy



rate yields the number of vehicle trips generated at the site driveways. Identifying the existing trip generation is complicated by the fact that some of the existing parking occurs along the shoulders of Country Club Drive and Village Road (per an agreement with Placer County), and that homes along these streets (and beyond) add to the traffic in the vicinity.

## **Winter Trip Generation**

### Winter Trip Generation of Existing Site

The winter roadway counts were used to identify the peak-hour traffic generated by the existing Tahoe XC site. Two sets of roadway count volumes were collected; one on Village Road south of the Tahoe XC lodge and one on Country Club drive just north of the Tahoe XC lodge. Subtracting the two data sets from each other reflect the number of trips that are generated by the Tahoe XC lodge plus the trips generated by the nine homes located between the two roadway counters. To account for these additional homes, a trip rate is calculated by dividing the northern roadway volumes by the number of homes (25) past this counter. This trip rate is then applied to the nine homes adjacent to the Tahoe XC lodge (between the two count locations) and removed from the total volume count (difference between the southern and northern counts). The remaining trips, which are attributed to existing Tahoe XC lodge, are found to be 34 inbound and 15 outbound trips during the winter weekday PM peak hour and 24 inbound and 36 outbound trips during the weekend PM peak hour<sup>2</sup>. Over the course of an entire winter day, this methodology yields 372 total one-way vehicle-trips on a weekend day and 178 total one-way vehicle-trips on a weekday. The winter trip generation at the existing site is summarized in the lower portion of Table 1.

With the proposed relocation of the XC lodge activities to the new site, the existing lodge site is assumed to also function as a community center. On a typical busy day, a gathering of about 15 people may occur at the community center. However, a 30-person gathering is assumed in winter, to remain conservative (conservatively high) with respect to winter trip generation. Also, for purposes of traffic generation, this gathering is assumed to let out during the PM peak hour. Compared to the existing background traffic levels on Country Club Drive (excluding XC lodge traffic), this gathering would generate about a 10 percent increase in peak-hour traffic. Additionally, approximately 4 persons are assumed to be on the site over the course of the day, such as staff, service, and/or delivery trips. It should be noted that large wedding events are not expected to occur at the community center, and are not considered in this analysis.

Subtracting the existing XC lodge trips that would be removed from this site and adding the trips generated by the potential community center yields the project “net impact” on the number of trips at the existing site driveways. As shown in the lower portion of the table, the project would result in a net reduction of approximately 146 daily one-way vehicle trips at the

---

<sup>2</sup> The specific observed time of the PM peak-hour varied between individual days.

**TABLE 1: Tahoe XC - Winter Trip Generation - Proposed Project (Site D)**

| Zone  | Description  | Quantity | Units     | Vehicle Occupancy | Project Generated Vehicle Trips at Site Access - Weekday |              |           | Project Generated Vehicle Trips at Site Access - Weekend |              |            |            |            |
|---|--|----------|-----------|-------------------|--|--------------|-----------|--|--------------|------------|------------|------------|
|   |  |          |           |                   | Daily  | PM Peak Hour |           | Daily  | PM Peak Hour |            |            |            |
|   |  |          |           |                   |  | In           | Out       |  | Total        | In         | Out        | Total      |
| <b>Proposed Lodge Site (Site D)</b>         |  |          |           |                   |  |              |           |  |              |            |            |            |
| <u>Skier Activity - Proposed Lodge Site</u> |  |          |           |                   |  |              |           |  |              |            |            |            |
|   | Existing Lodge Use                                       |          |           |                   | 178  | 34           | 15        | 49   | 372          | 24         | 36         | 60         |
|   | 10% Increase in Visitation                               |          |           |                   | 18   | 3            | 2         | 5  | 37           | 2          | 4          | 6          |
|   | <i>Subtotal: Skier Activity</i>                          |          |           |                   | 196  | 37           | 17        | 54   | 409          | 26         | 40         | 66         |
| <u>Gathering at New Lodge</u>               |  |          |           |                   |  |              |           |  |              |            |            |            |
|   | Attendees  | 65       | Attendees | 1.8               | 72   | 36           | 0         | 36   | 72           | 36         | 0          | 36         |
|   | Staff/Service/Deliveries                                 | 2        | Persons   | 1.1               | 4  | 2            | 0         | 2  | 4            | 2          | 0          | 2          |
|   | <i>Subtotal Gathering at New Lodge</i>                   |          |           |                   | 76   | 38           | 0         | 38   | 76           | 38         | 0          | 38         |
|   | <u>Additional Employees at New Lodge (Weekends Only)</u> |          |           |                   | 0  | 0            | 0         | 0  | 4            | 0          | 2          | 2          |
|   | Staff  | 2        | Staff     | 1.1               |  |              |           |  |              |            |            |            |
|   | <b>Total Proposed Lodge</b>                              |          |           |                   | <b>272</b>   | <b>75</b>    | <b>17</b> | <b>92</b>  | <b>489</b>   | <b>64</b>  | <b>42</b>  | <b>106</b> |
| <b>Existing Lodge Site</b>                  |  |          |           |                   |  |              |           |  |              |            |            |            |
| <u>Remove Existing Lodge Use</u>            |  |          |           |                   |  |              |           |  |              |            |            |            |
|   | Existing Use Relocated to New Lodge                      |          |           |                   | -178   | -34          | -15       | -49  | -372         | -24        | -36        | -60        |
| <u>Potential Community Center</u>           |  |          |           |                   |  |              |           |  |              |            |            |            |
|   | Attendees  | 30       | Attendees | 2.5               | 24   | 0            | 12        | 12   | 24           | 0          | 12         | 12         |
|   | Staff/Service/Deliveries                                 | 4        | Persons   | 1.0               | 8  | 0            | 0         | 0  | 8            | 0          | 0          | 0          |
|   | <i>Subtotal Community Center</i>                         |          |           |                   | 32   | 0            | 12        | 12   | 32           | 0          | 12         | 12         |
|   | <b>Net Impact at Existing Lodge</b>                      |          |           |                   | <b>-146</b>  | <b>-34</b>   | <b>-3</b> | <b>-37</b>   | <b>-340</b>  | <b>-24</b> | <b>-24</b> | <b>-48</b> |
| <b>TOTAL PROJECT NET IMPACT - WINTER</b>    |  |          |           |                   | <b>126</b>   | <b>41</b>    | <b>14</b> | <b>55</b>  | <b>149</b>   | <b>40</b>  | <b>18</b>  | <b>58</b>  |

Source: LSC Transportation Consultants, Inc.

2018 Tahoe XC.xlsx

existing site driveways over the course of a winter weekday, including a reduction of approximately 37 PM peak-hour one-way trips. On a winter weekend, the net reduction would be approximately 340 daily trips and 48 PM peak-hour trips.

#### Winter Trip Generation at Proposed New Lodge Site (Site D)

The winter trip generation at the proposed site is summarized in the upper portion of Table 1, and it is estimated based on the following assumptions:

- Although the new lodge is not expected to increase the general skier visitation to Tahoe XC, general visitation is assumed to increase by 10 percent in winter (in addition to the potential events and gatherings held at the new lodge), for purposes of this study. This is a conservatively high traffic increase assumption, as trip generation of a ski area is typically a function of the skiable terrain and skier capacity rather than lodge amenities.
- Some existing trailhead users will continue to use the existing lodge site (such as season pass holders living near the existing lodge site) while some will shift to the new location. However, for purposes of this analysis, all existing users are assumed to relocate to the new site, resulting in conservatively high traffic volume impacts at the new site and along Polaris Road and Old Mill Road.
- Additionally, on a typical busy winter day a 65-person<sup>3</sup> (including event attendees, staff, performers, volunteers) gathering is assumed to occur at the new lodge. This gathering event is assumed to start/arrive during the PM peak hour. The average vehicle occupancy rate of event attendees is assumed to be 1.8 persons per vehicle. This vehicle occupancy rate will vary depending upon type of event, with events geared for visitors and/or families generating a higher rate and those geared for locals and/or adults generating a lower rate. The Tahoe Regional Planning Agency (TRPA) 2016 Winter Travel Mode Survey found that 371 surveyed recreational travel groups in the Tahoe Region had an average vehicle occupancy of 2.72. Based on this, 1.8 persons per vehicle can be considered a conservative assumption, as it results in a conservatively high trip generation.
- No increase in total number of staff at the new lodge is expected on winter weekdays, although 2 additional staff members are assumed on winter weekends.
- An average employee vehicle occupancy rate of 1.1 staff per vehicle is assumed, based on a review of employee occupancy rates assumed for other similar facilities (such as the Tahoe Donner Cross Country Ski Center and the Tahoe City Golf Course). This is a conservatively low factor compared with the average work-trip vehicle occupancy generated by the TRPA 2016 Winter Travel Mode Survey (1.96) as well as the value of

---

<sup>3</sup> Although a 65 person gathering is assumed at the new lodge, a smaller gathering of only 30 persons is assumed at the potential community center at the existing site.

1.18 reported in the 2017 National Household Travel Survey conducted by the Federal Highway Administration.

As shown in the middle portion of Table 1, the proposed project would generate a total of approximately 272 daily one-way vehicle trips on a winter weekday and 489 daily trips on a winter weekend day. During the PM peak hours, 92 vehicle trips (75 arriving and 17 departing) would occur during the weekday PM and 106 (64 arriving and 42 departing) during the weekend PM.

#### Project Net Impact on Winter Trip Generation – Proposed Project (Site D)

As shown in Table 1, adding the project net impact at the existing site to the trip generation at the new site yields an overall net increase of 126 daily vehicle trip ends (DVTE) on weekdays and 149 DVTE's on weekends/holidays on the regional roadway network. The net increase on regional roads during the winter weekday PM peak hour would be approximately 55 one-way vehicle trips, and the net increase during a winter weekend would be 58 vehicle trips.

#### Winter Trip Generation of Project Alternative (Site A)

The winter trip generation of the project alternative (Site A), which would reconstruct the lodge at the existing site, is summarized in the upper portion of Table 2. As the reconstructed lodge would have the same size and layout as for the proposed project, the assumptions regarding activities at the new lodge are the same as for the proposed project. As shown in the lower row of Table 2, the project alternative (Site A) would result in a net increase of approximately 94 daily one-way vehicle trips on a winter weekday and 117 daily trips on a winter weekend day. During the PM peak hours, a net increase of 43 vehicle trips would occur during the weekday PM and a net increase of 46 vehicle trips would occur during the weekend PM.

### **Summer Trip Generation**

#### Summer Trip Generation at Existing Site

The summer roadway counts were used to identify the peak-hour traffic generated by the existing XC lodge, applying the same method used for winter to adjust the roadway counts. The weekday and weekend PM peak-hour volumes at this location are generally similar, although the PM peak hour does not tend to occur at the same time each day. This study assumes the PM peak hour of site-generated traffic coincides with the PM peak hour of adjacent street traffic, to yield conservatively high traffic volumes. The existing Tahoe XC lodge is estimated to generate 17 inbound and 20 outbound trips during the summer PM peak hour. Over the course of a busy summer day, this methodology yields about 370 total daily one-way vehicle-trips. The summer trip generation at the existing site is summarized in the lower portion of Table 3.

**TABLE 2: Tahoe XC - Winter Trip Generation - Project Alternative (Site A)**

| Zone   | Description                               | Quantity | Units     | Vehicle Occupancy | Project Generated Vehicle Trips at Site Access - Weekday |              |           | Project Generated Vehicle Trips at Site Access - Weekend |              |           |           |            |
|--|---|----------|-----------|-------------------|--|--------------|-----------|--|--------------|-----------|-----------|------------|
|  |   |          |           |                   | Daily  | PM Peak Hour |           | Daily  | PM Peak Hour |           |           |            |
|  |   |          |           |                   |  | In           | Out       |  | Total        | In        | Out       | Total      |
| <b>Alternative Lodge (Site A)</b>                        |   |          |           |                   |  |              |           |  |              |           |           |            |
|  | <u>Skier Activity - New Lodge</u>         |          |           |                   |  |              |           |  |              |           |           |            |
|  | Existing Lodge Use Relocated to New Lodge |          |           |                   | 178  | 34           | 15        | 49   | 372          | 24        | 36        | 60         |
|  | 10% Increase in Visitation                |          |           |                   | 18   | 3            | 2         | 5  | 37           | 2         | 4         | 6          |
|  | <i>Subtotal: Skier Activity</i>           |          |           |                   | 196  | 37           | 17        | 54   | 409          | 26        | 40        | 66         |
| <u>Gathering at New Lodge</u>                            |   |          |           |                   |  |              |           |  |              |           |           |            |
|  | Attendees                                 | 65       | Attendees | 1.8               | 72   | 36           | 0         | 36   | 72           | 36        | 0         | 36         |
|  | Staff/Service/Deliveries                  | 2        | Persons   | 1.1               | 4  | 2            | 0         | 2  | 4            | 2         | 0         | 2          |
|  | <i>Subtotal Gathering at New Lodge</i>    |          |           |                   | 76   | 38           | 0         | 38   | 76           | 38        | 0         | 38         |
| <u>Additional Employees at New Lodge (Weekends Only)</u> |   |          |           |                   |  |              |           |  |              |           |           |            |
|  | Staff                                     | 2        | Staff     | 1.1               | 0  | 0            | 0         | 0  | 4            | 0         | 2         | 2          |
| <b>Total Trip Generation</b>                             |   |          |           |                   | <b>272</b>   | <b>75</b>    | <b>17</b> | <b>92</b>  | <b>489</b>   | <b>64</b> | <b>42</b> | <b>106</b> |
| <b>PROJECT NET IMPACT (Total Minus Existing Trips)</b>   |   |          |           |                   | <b>94</b>  | <b>41</b>    | <b>2</b>  | <b>43</b>  | <b>117</b>   | <b>40</b> | <b>6</b>  | <b>46</b>  |

Source: LSC Transportation Consultants, Inc.

2018 Tahoe XC.xlsx

**TABLE 3: Tahoe XC - Summer Trip Generation - Proposed Project (Site D)**

| Description   | Quantity | Units        | Vehicle Occupancy Rate (persons/vehicle) | Project Generated Vehicle Trips at Site Access |              |            |            |  |  |
|---|----------|--------------|--|--|--------------|------------|------------|--|--|
|   |          |              |  | Daily  | PM Peak Hour |            | Total      |  |  |
|   |          |              |  |  | In           | Out        |            |  |  |
| <b>Proposed Lodge Site (Site D)</b>                           |          |              |  |  |              |            |            |  |  |
| Existing Lodge & Trailhead Use (Relocated from Existing Site) | --       | --           | --                                       | 370  | 17           | 20         | 37         |  |  |
| <u>Add Gatherings at New Lodge</u>                            |          |              |  |  |              |            |            |  |  |
| Attendees   | 65       | Attendees    | 1.8                                      | 72   | 36           | 0          | 36         |  |  |
| Early Day Meeting   | 15       | Attendees    | 1.8                                      | 17   | 0            | 0          | 0          |  |  |
| <i>Subtotal Gatherings</i>                                    |          |              |  | 89   | 36           | 0          | 36         |  |  |
| Additional Bike Rental Customers                              | 5        | Customers    | 2.5                                      | 4  | 0            | 0          | 0          |  |  |
| Additional Lodge/Café/Rental Staff Employees                  | 3        | Employees    | 1.1                                      | 5  | 0            | 1          | 1          |  |  |
| <u>Add Youth Camp</u>   |          |              |  |  |              |            |            |  |  |
| Participants  | 15       | Participants | 1.5                                      | 40   | 10           | 10         | 20         |  |  |
| Staff   | 3        | Staff        | 1.1                                      | 5  | 0            | 3          | 3          |  |  |
| <i>Subtotal Youth Camp</i>                                    |          |              |  | 45   | 10           | 13         | 23         |  |  |
| <b>Total at Proposed Site</b>                                 |          |              |  | <b>513</b>                                     | <b>63</b>    | <b>34</b>  | <b>97</b>  |  |  |
| <b>Existing Lodge Site</b>                                    |          |              |  |  |              |            |            |  |  |
| Remove Existing Lodge & Trailhead Use                         |          |              |  | -370   | -17          | -20        | -37        |  |  |
| <u>Add Potential Community Center</u>                         |          |              |  |  |              |            |            |  |  |
| Attendees   | 15       | Attendees    | 2.5                                      | 12   | 0            | 6          | 6          |  |  |
| Staff/Service/Deliveries                                      | 2        | Persons      | 1.0                                      | 4  | 0            | 0          | 0          |  |  |
| <i>Subtotal Community Center</i>                              |          |              |  | 16   | 0            | 6          | 6          |  |  |
| <b>Net Impact at Existing Site</b>                            |          |              |  | <b>-354</b>                                    | <b>-17</b>   | <b>-14</b> | <b>-31</b> |  |  |
| <b>OVERALL PROJECT NET IMPACT ON TRIP GENERATION - SUMMER</b> |          |              |  | <b>159</b>                                     | <b>46</b>    | <b>20</b>  | <b>66</b>  |  |  |

Source: LSC Transportation Consultants, Inc.

2018 Tahoe XC.xlsx

With the proposed relocation of the XC lodge activities to the new site, the existing lodge site is assumed to function as a community center. The trip generation assumptions for the community center during the summer are different than in winter. On a typical busy summer day, a gathering of about 15 people may occur at the community center. For purposes of traffic generation, this gathering is assumed to let out during the PM peak hour. Additionally, approximately 2 persons are assumed to be on the site over the course of the day, such as staff, service, and/or delivery trips.

Subtracting the existing XC lodge trips that would be removed from this site and adding the trips generated by the potential community center yields a net reduction of approximately 354 daily one-way vehicle trips at the existing site driveways over the course of a summer day, including a reduction of approximately 31 PM peak-hour trips (17 entering and 14 exiting).

#### Summer Trip Generation at Proposed New Lodge Site (Site D)

The summer traffic generation at the new lodge site is estimated based on the following “design day” assumptions:

- It is not specified whether the project generates more traffic on summer weekends or weekdays. Rather, the “design day” for estimating the XC site-generated traffic is assumed to coincide with a busy traffic day on adjacent roadways (such as a Friday in August), to yield conservatively high traffic volumes.
- No expansion of the trail system is proposed. There are other trailhead access locations nearby, such as the recently constructed trailhead parking lot on SR 28 opposite Dollar Drive. General visitation levels to the trailheads in summer are not expected to increase as a result of the new lodge.
- Some existing trailhead users will continue to use the existing lodge site, and some will shift to the new location. However, for purposes of this analysis, all existing users are assumed to relocate to the new site, which results in conservatively high traffic volume impacts at the new site and along Polaris Road and Old Mill Road. Additionally, a 65-person gathering is assumed to occur at the new lodge on a busy summer day. This gathering event has the same trip generation assumptions in summer and winter.
- A 15-person meeting/gathering is also assumed to occur at the new lodge, earlier in the day.
- Trips associated with the bike rental operations are reflected in the “existing use” trips relocated from the existing site. However, the project proponent indicates that they expect bike rental operations at the new lodge to generate about 5 additional customers over the course of a busy day. Bike rental customers are assumed to have an average vehicle occupancy of 2.5 persons per vehicle.

- Three (3) additional summer lodge/café/rental staff members are assumed at the new site, above and beyond the existing staff that would be relocated from the existing lodge site.
- Junior mountain biking sessions and/or summer DEVO/Nordic dryland training activities are reflected in the existing use trips. (The project proponent confirmed that a junior mountain biking session did occur during the week of August 9-13, 2018 when the supplemental summer traffic counts were conducted.) With the proposed lodge, these activities are not expected to occur on the same day.
- Finally, summer youth camps could potentially occur at the new site. These camps are assumed to have 15 children and 3 staff on a typical busy day.
- Youth camp participants are assumed to have an average vehicle occupancy rate of 1.5 participants per vehicle, consistent with rates used for youth activities in other recent studies.

As shown in the middle portion of Table 3, the proposed project is estimated to generate approximately 513 daily one-way vehicle trips at the proposed site driveways on a summer day, including 97 PM peak-hour trips (63 arriving and 34 departing).

#### Project Net Impact on Summer Trip Generation – Proposed Project (Site D)

As shown in the bottom row of Table 3, adding the project net impact at the existing site to the trip generation at the new site yields an overall net increase of 159 daily vehicle trips (DVTE) on the regional roadway network. The net increase on regional roads during the summer PM peak hour would be approximately 66 one-way vehicle trips.

#### Summer Trip Generation of Project Alternative (Site A)

The summer trip generation of the project alternative (Site A) is summarized in the upper portion of Table 4. The assumptions regarding activities at the new lodge are the same as for the proposed project. As shown in the lower row of Table 4, the project alternative (Site A) would result in a net increase of approximately 143 daily one-way vehicle trips on a summer day, with a net increase of 60 vehicle trips (46 arriving and 14 departing) during the PM peak hour.

### **TRIP DISTRIBUTION AND ASSIGNMENT**

The distribution of traffic arriving and departing the site is estimated based on existing traffic patterns, regional access patterns, and the location of the site relative to commercial and residential properties. To be conservative, no XC trips were assumed to travel to/from homes



**TABLE 4: Tahoe XC - Summer Trip Generation - Project Alternative (Site A)**

| Zone                              | Description  | Quantity | Units        | Vehicle Occupancy Rate (persons/vehicle) | Project Generated Vehicle Trips at Site Access |              |           |           |
|-----------------------------------|--|----------|--------------|--|--|--------------|-----------|-----------|
|                                   |  |          |              |  | Daily  | PM Peak Hour |           | Total     |
|                                   |  |          |              |  |  | In           | Out       |           |
| <b>Alternative Lodge (Site A)</b> |  |          |              |  |  |              |           |           |
|                                   | Existing Lodge & Trailhead Use                         |          |              |  | 370  | 17           | 20        | 37        |
|                                   | <u>Add Gatherings at New Lodge</u>                     |          |              |  |  |              |           |           |
|                                   | Attendees  | 65       | Attendees    | 1.8                                      | 72   | 36           | 0         | 36        |
|                                   | Early Day Meeting                                      | 15       | Attendees    | 1.8                                      | 17   | 0            | 0         | 0         |
|                                   | <i>Subtotal Gatherings</i>                             |          |              |  | 89   | 36           | 0         | 36        |
|                                   | Additional Bike Rental Customers                       | 5        | Customers    | 2.5                                      | 4  | 0            | 0         | 0         |
|                                   | Additional Lodge/Café/Rental Staff Employees           | 3        | Employees    | 1.1                                      | 5  | 0            | 1         | 1         |
|                                   | <u>Add Youth Camp</u>                                  |          |              |  |  |              |           |           |
|                                   | Participants   | 15       | Participants | 1.5                                      | 40   | 10           | 10        | 20        |
|                                   | Staff  | 3        | Staff        | 1.1                                      | 5  | 0            | 3         | 3         |
|                                   | <i>Subtotal Youth Camp</i>                             |          |              |  | 45   | 10           | 13        | 23        |
|                                   | <b>Total Trip Generation</b>                           |          |              |  | <b>513</b>                                     | <b>63</b>    | <b>34</b> | <b>97</b> |
|                                   | <b>PROJECT NET IMPACT (Total Minus Existing Trips)</b> |          |              |  | <b>143</b>                                     | <b>46</b>    | <b>14</b> | <b>60</b> |

Source: LSC Transportation Consultants, Inc.

2018 Tahoe XC.xlsx

within the Highlands area. A resulting distribution of 55% to and from the west on SR 28 and 45% to and from the east on SR 28 was used for all scenarios.

### **Winter Traffic Assignment**

If the lodge is built at the new site next to the North Tahoe High School, a shift in traffic will occur. Rather than using Fabian Way, Village Road and Country Club Drive, traffic to/from the east will divert and use Fabian Way, Village Road, and the entire length of Polaris Road. Ski area management has indicated that this route would be identified as the recommended route in marketing materials and on the website/social media. However, as travel between the new site and SR 28 to/from the west is substantially shorter using Old Mill Road, and as many drivers will be aware of the availability of this route either by being familiar with the roadway network or by using smartphone travel apps, it is estimated that 70% of traffic to and from the west will use Old Mill Road and Polaris Road to gain access to Tahoe XC in the winter if it is relocated to the new site. Traffic to/from the potential community center at the existing site location will be seen on the current roadway travel path (Fabian Way, Village Road, and Country Club Drive).

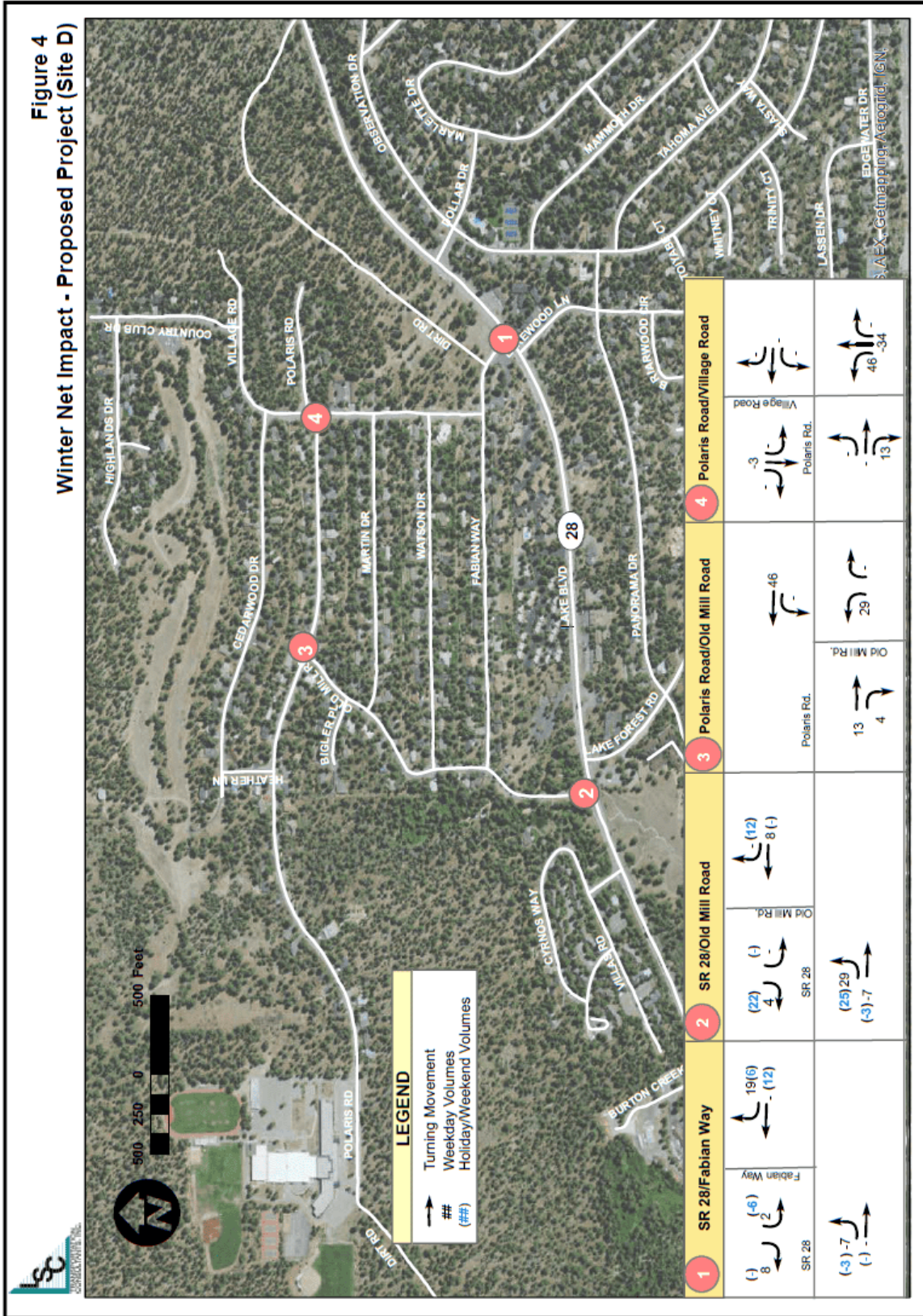
Applying these assumptions to the winter trip generation figures for the proposed project (Site D) and the project alternative (Site A) yields the 'project net impact' on intersection turning-movement volumes presented in Figures 4 and 5, respectively. Adding the 'project net impact' volumes to the 'existing winter no project' volumes yields the 'existing with project' intersection volumes illustrated in Figures 6 and 7 for the proposed project and the project alternative, respectively.

### **Summer Traffic Assignment**

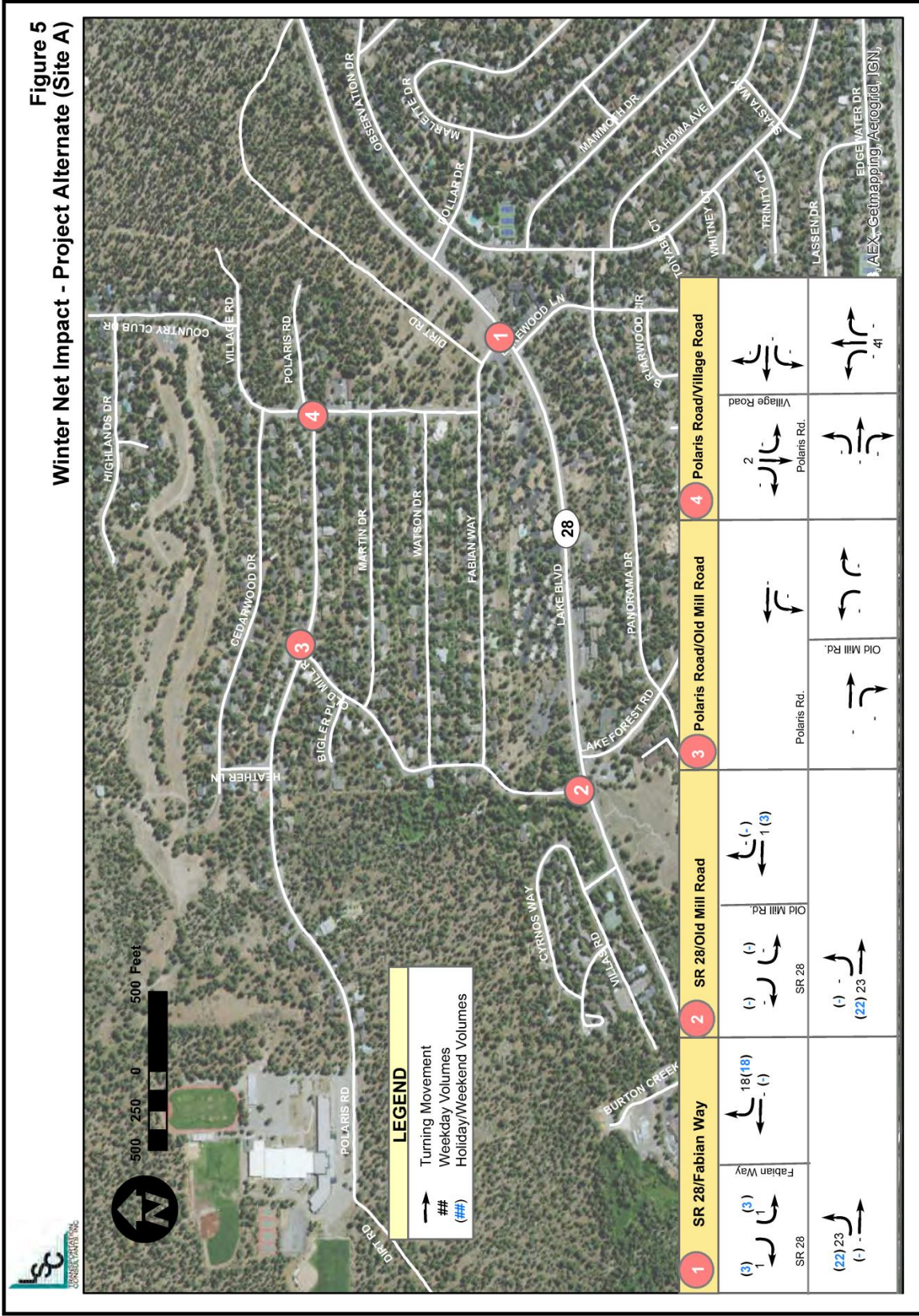
The east-west split (distribution) of project trips in the summer is the same as in winter, although the travel route assumptions are different for the proposed lodge site. All trips made between the proposed site and points east on SR 28 are assumed to use Fabian Way, Village Road, and Polaris Road, whereas all trips made to/from the west are assumed to use the Old Mill Road route. Under the project alternative (Site A), traffic to/from the new lodge on the existing site will be seen on the current roadway travel path (Fabian Way, Village Road, and Country Club Drive).

Applying these assumptions to the summer trip generation figures for the proposed project (Site D) and the project alternative (Site A) yields the 'project net impact' on intersection turning-movement volumes. Adding the 'project net impact' volumes to the 'existing summer no project' volumes yields the 'existing with project' intersection volumes. (The summer volumes from a previous analysis that assumed more activity at the site are provided in Appendix B. However, the summer volumes associated with the currently proposed project would be lower than those volumes.)

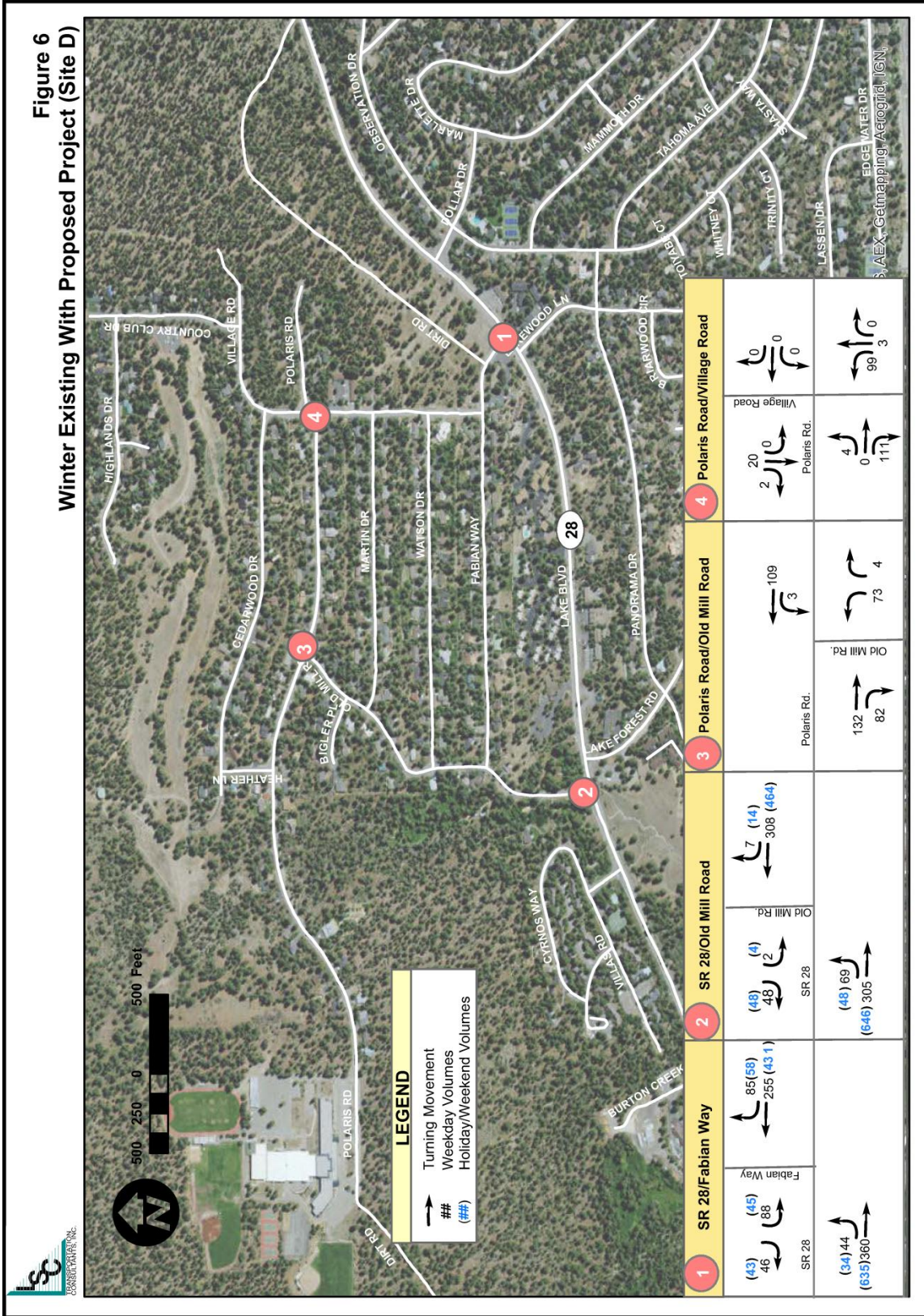
Figure 4  
Winter Net Impact - Proposed Project (Site D)



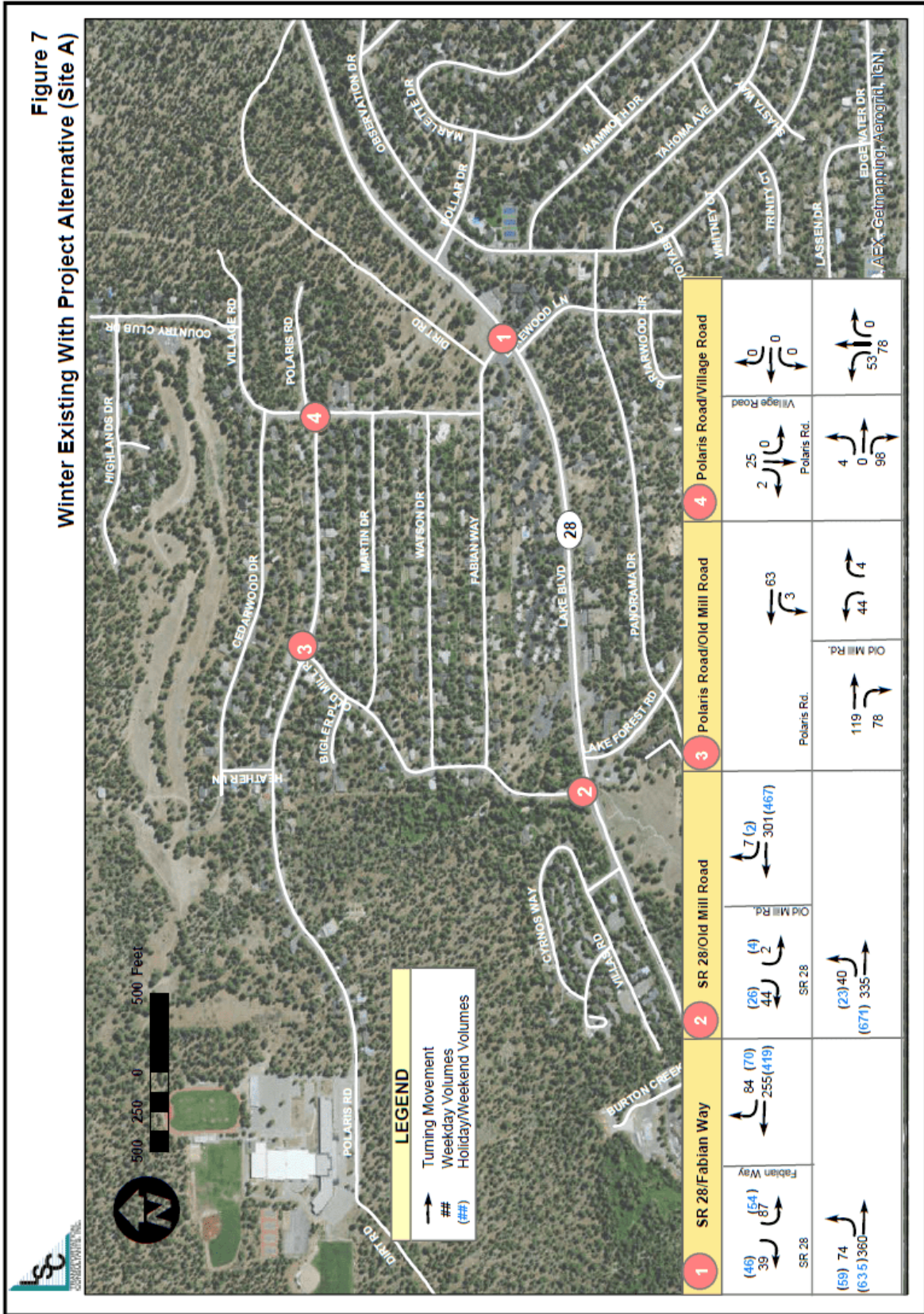
**Figure 5  
Winter Net Impact - Project Alternate (Site A)**



**Figure 6**  
**Winter Existing With Proposed Project (Site D)**



**Figure 7**  
**Winter Existing With Project Alternative (Site A)**



This page intentionally left blank.

## FUTURE CUMULATIVE CONDITIONS

---

In addition to incorporating the vehicular impacts of the new (and potentially relocated) lodge, potential future developments and forecasted changes in traffic on major roadways in the community were reviewed. The future cumulative background traffic volumes used in this study include the addition of the following:

- Increase in through traffic on SR 28 in winter is based on the growth in traffic indicated in the Draft EIS/EIR for the Squaw Valley/Alpine Meadows Base-to-Base Gondola project. The estimated increase in through traffic volumes on SR 28 in Tahoe City is approximately 19.3 percent in the winter PM peak hour. This growth is applied to the existing winter through volumes on SR 28 in the site vicinity.
- Increase in through traffic on SR 28 in summer is based on the growth in traffic indicated in the adopted Placer County Tahoe Basin Area Plan EIR/EIS. The estimated increase in through traffic volumes on SR 28 in the site vicinity is approximately 13.8 percent in summer.
- The potential Dollar Creek Crossing project is located in the northeast quadrant of the SR 28/Fabian Way intersection. As this project is in the early planning stages, the specific details regarding the proposed land uses and access were not available at the time of completion of the traffic analysis. Thus, a preliminary estimate of 169 new multi-family residential units was assumed to be constructed, with 50% of the vehicle trips to and from the facility accessing via a driveway on SR 28 and the other 50% assumed to access the site via a potential new driveway on Fabian Way. Standard Institute of Transportation Engineers (ITE) trip generation rates were used to estimate the trip generation of the 169 units. As of May 2019, the Dollar Creek Crossing project proponents indicated that the project could include up to 214 residential units, which would almost entirely be multi-family residential units and a few single-family residential units. The difference between the modeled number of residential units and the most recent available greater number of residential units presented in May 2019 is not anticipated to result in a substantial change in the cumulative traffic analysis such that there would be a change in the impact conclusions.
- To estimate growth in traffic on the side streets in the study area, the growth in land use at buildout of the Area Plan (based on TRPA TransCAD Travel Demand Model land use files) was reviewed. Based on this review, the following future development is assumed:
  - Development of 4 additional homes in The Highlands neighborhood (on the north side of SR 28, between Old Mill Road and Village Road).



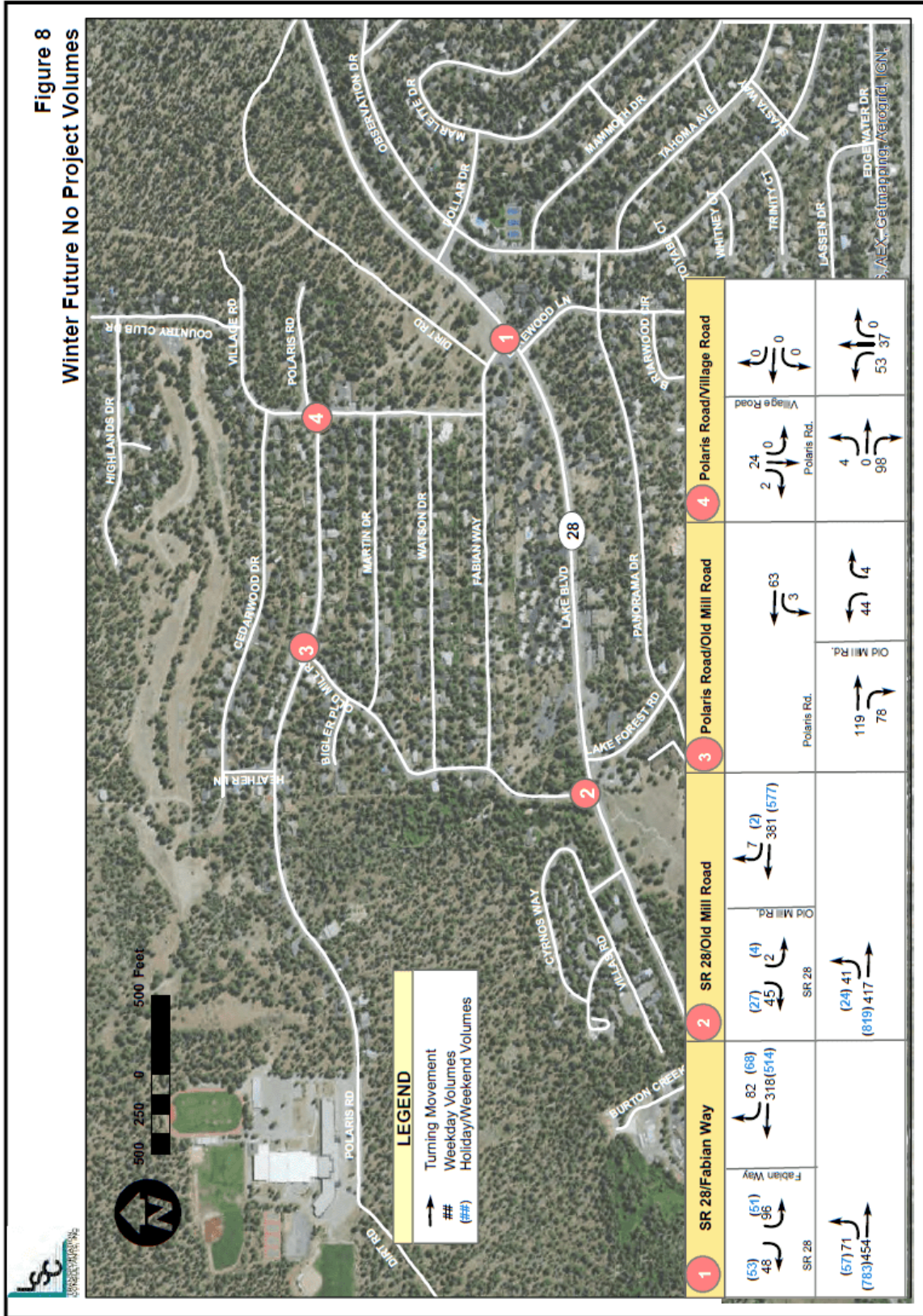
- Development of 7 additional homes in the Lake Forest neighborhood (on the south side of SR 28, accessed via Lake Forest Road).
- Development of 18 additional homes in Dollar Point (on the south side of SR 28, with access assumed via Dollar Drive and Lakewood Drive).

The trip generation of the additional homes is estimated using standard ITE trip rates for single-family homes.

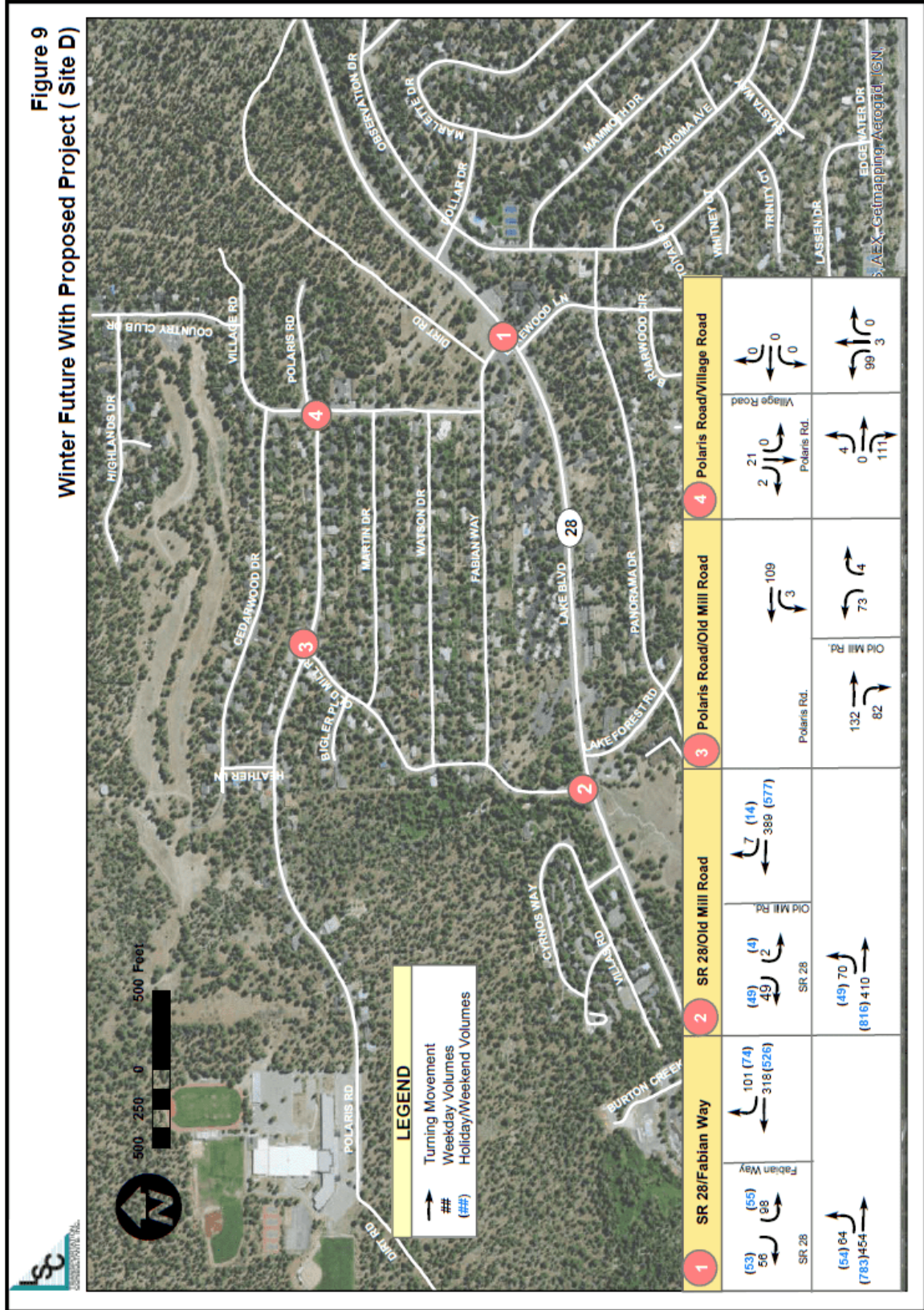
- The approved Dollar Creek Forest Health and Biomass projects are expected to occur in 2019 and 2020. As the traffic associated with this project would be temporary and prior to completion of a new lodge, no additional traffic is assumed under future cumulative conditions.
- Finally, the North Tahoe School/North Tahoe High School Facilities Program is in the early planning stages. However, based on the nature of the potential improvements, this project would not be expected to generate a notable change in traffic or parking levels, once constructed.

The growth in traffic volumes associated with the items listed above was applied to the winter and summer volumes for the existing year scenarios to determine future cumulative scenario volumes (with and without the project). The future cumulative winter volumes are presented in Figures 8 through 10. (The future cumulative summer volumes from a previous analysis that assumed more activity at the site are provided in Appendix B. However, the future summer volumes associated with the currently proposed project would be lower than those volumes).

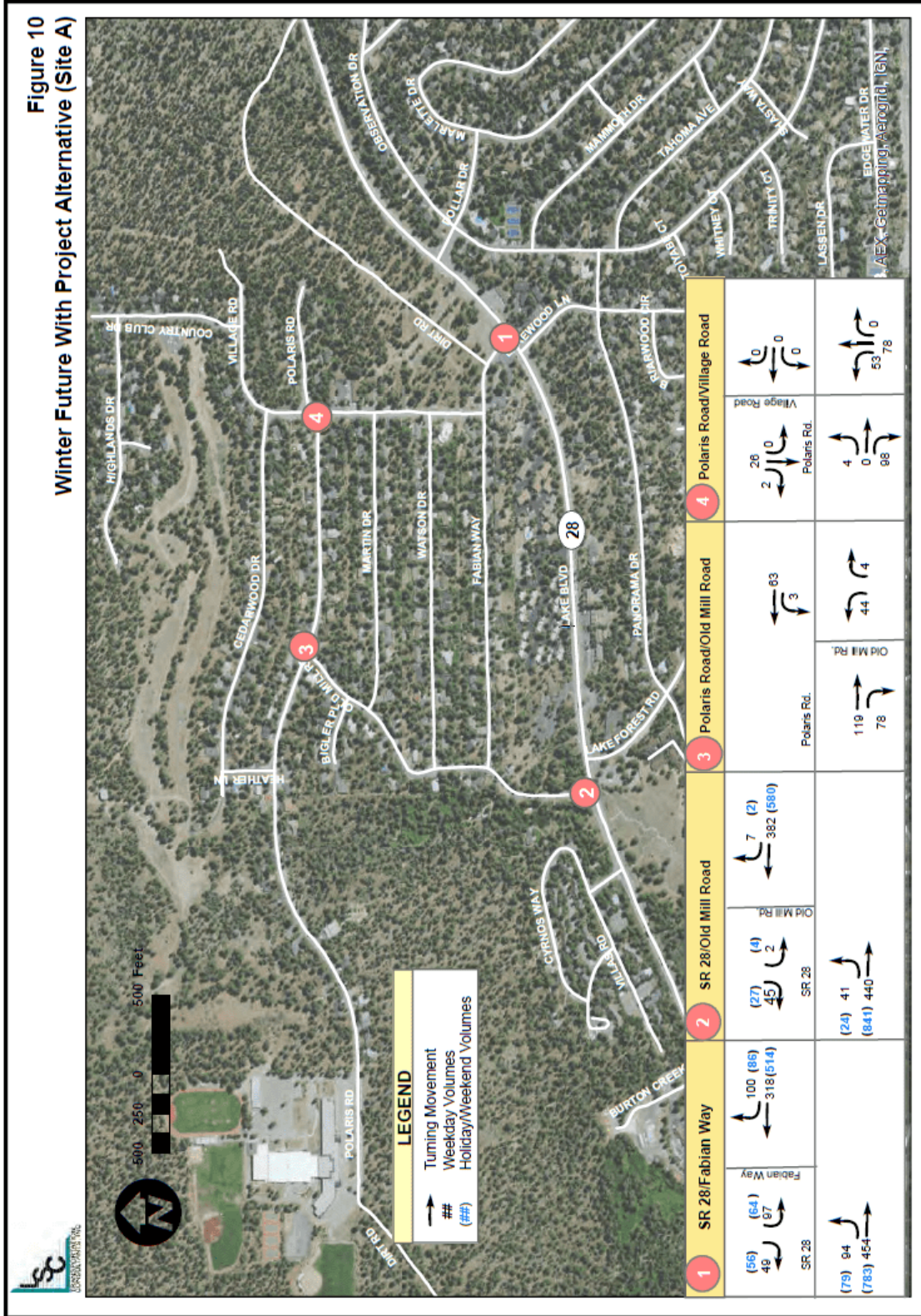
**Figure 8**  
**Winter Future No Project Volumes**



**Figure 9  
Winter Future With Proposed Project ( Site D )**



**Figure 10**  
**Winter Future With Project Alternative (Site A)**



This page intentionally left blank.

## **DESCRIPTION**

Traffic operations were assessed in terms of Level of Service (LOS). LOS is a concept that was developed by transportation engineers to quantify the level of operation of intersections and roadways (Highway Capacity Manual, Transportation Research Board, 2017). LOS measures are classified in grades “A” through “F” indicating a range of operation. LOS “A” signifies the best level of operation, while “F” represents the worst. A detailed description of LOS criteria is provided in Appendix B.

For signalized intersections, LOS is primarily measured in terms of average delay per vehicle entering the intersection. LOS at unsignalized intersections is quantified in terms of delay per vehicle for each movement. Unsignalized intersection LOS is based upon the theory of gap acceptance for side-street stop sign-controlled approaches, while signalized intersection LOS is based upon the assessment of volume-to-capacity ratios and control delay. Roundabout LOS is based upon the theory of gap acceptance for the traffic entering the roundabout, and an assessment of the conflicting circulating flow.

## **LEVEL OF SERVICE STANDARDS**

### **TRPA**

While TRPA’s Goals and Policies in the Regional Plan Transportation Element set standards for vehicle LOS for roadways and signalized intersections, TRPA has no standards specific to unsignalized intersections. Typically, a project that causes a study intersection not controlled by a signal or roundabout to worsen from LOS A through E to LOS F, or to increase delay where LOS F currently exists, would be identified as a concern.

### **Caltrans**

The California Department of Transportation (Caltrans) prepares Transportation Corridor Concept Reports for each highway in the state system, which include a “20 Year Concept LOS” for each segment. Reflecting forecast conditions and the limited opportunities to expand capacity in the Tahoe region, the most recent Transportation Corridor Concept Report (2012) identifies a 20-year concept LOS of LOS E for all segments of SR 28. The standards set forth by the TRPA typically govern over the state standards for projects located within the Tahoe Basin, but any projects affecting a state highway are also subject to Caltrans review.

## Placer County

Placer County defines its LOS standard as “D” for locations within one-half mile of a state highway (encompassing the Tahoe XC study area), and “C” for other locations. According to County policy, the County’s LOS standards for the state highway system shall be no worse than those adopted in the Placer County Congestion Management Program (CMP). The LOS standard in the CMP for roadways and signalized intersections located along state highways is “E.” If worst movement LOS at an unsignalized intersection in Placer County exceeds LOS standards, a “Peak-Hour” signal warrant analysis, consistent with the Manual of Uniform Traffic Control Devices (MUTCD), is required. If the intersection attains minimum signal warrant volumes, mitigation is required.

### INTERSECTION LEVEL OF SERVICE ANALYSIS

Intersection LOS for the study intersections was evaluated using the methodologies documented in the Highway Capacity Manual (HCM 6), as applied the Highway Capacity Software (HCS 7). All study intersections were evaluated to determine existing and future cumulative operational conditions for the winter weekday PM, winter weekend/holiday PM and summer PM peak hours. Note that the summer PM peak-hour volumes reflect a Friday in August, consistent with Placer County’s standard design period. In addition, this study assumes the PM peak hour of XC site-generated traffic coincides with the PM peak hour of adjacent street traffic, in order to yield conservatively high traffic volumes. Detailed LOS outputs can be found in Appendix C.

### Existing Year LOS

As indicated in the upper portion of Tables 5 and 6 below, all study intersections currently operate at a relatively good LOS A or B in the winter and summer without the project. Although implementation of the project could result in a slight increase in average delays during peak periods, all intersections would continue to operate at LOS A or B, under either project alternative. The greatest increase in delays would occur at the SR 28/Fabian Way intersection, where the project traffic would increase the average delay on the southbound left-turn movement from Fabian onto SR 28 by up to 1.7 seconds per vehicle during peak periods. However, no LOS deficiencies are identified.

### Future Cumulative Year LOS

The future cumulative intersection LOS results are shown in the lower portion of Tables 5 and 6. With the future background traffic growth, some study intersections may experience a slight increase in driver delays, although all intersections would continue to operate at LOS A or B in the winter and summer without the project. Implementation of either project alternative could result in a slight increase in average delays during peak periods. However, all intersections would continue to operate at an acceptable LOS A or B during the winter and summer.

**TABLE 5: Tahoe XC Winter Intersection Level of Service**

| Intersection               | Analysis Period    | Winter No Project |             | Winter With Proposed Project (Site D) |             | Winter With Project Alternative (Site A) |             |
|----------------------------|--------------------|-------------------|-------------|---------------------------------------|-------------|--|-------------|
|                            |                    | LOS               | Delay (sec) | LOS                                   | Delay (sec) | LOS                                      | Delay (sec) |
| <b>EXISTING CONDITIONS</b> |                    |                   |             |                                       |             |  |             |
| SR 28/Fabian Way           | Weekday PM         | A                 | 9.7         | A                                     | 9.5         | A  | 10.0        |
| SR 28/Old Mill Rd          | Weekday PM         | A                 | 9.8         | A                                     | 9.9         | A  | 9.8         |
| Polaris Rd/Old Mill Rd     | Weekday PM         | A                 | 8.1         | A                                     | 8.5         | A  | 8.1         |
| Polaris Rd/Village Dr      | Weekday PM         | A                 | 8.9         | A                                     | 9.0         | A  | 8.9         |
| SR 28/Fabian Way           | Weekend/Holiday PM | A                 | 9.9         | A                                     | 9.6         | B  | 10.2        |
| SR 28/Old Mill Rd          | Weekend/Holiday PM | B                 | 10.1        | B                                     | 10.7        | B  | 10.1        |
| <b>FUTURE CONDITIONS</b>   |                    |                   |             |                                       |             |  |             |
| SR 28/Fabian Way           | Weekday PM         | B                 | 10.4        | B                                     | 10.1        | B  | 10.8        |
| SR 28/Old Mill Rd          | Weekday PM         | B                 | 10.3        | B                                     | 10.4        | B  | 10.3        |
| Polaris Rd/Old Mill Rd     | Weekday PM         | A                 | 8.1         | A                                     | 8.5         | A  | 8.1         |
| Polaris Rd/Village Dr      | Weekday PM         | A                 | 8.9         | A                                     | 9.0         | A  | 8.9         |
| SR 28/Fabian Way           | Weekend/Holiday PM | B                 | 11.2        | B                                     | 10.8        | B  | 11.7        |
| SR 28/Old Mill Rd          | Weekend/Holiday PM | B                 | 10.8        | B                                     | 11.5        | B  | 10.9        |

Source: LSC Transportation Consultants, Inc.

2018 Tahoe XC.xlsx

**TABLE 6: Tahoe XC Summer Intersection Level of Service**

| Intersection               | Analysis Period <sup>2</sup> | Summer No Project |             | Summer With Proposed Project (Site D) <sup>1</sup> |             | Summer With Project Alternative (Site A) <sup>1</sup> |             |
|----------------------------|------------------------------|-------------------|-------------|--|-------------|---|-------------|
|                            |                              | LOS               | Delay (sec) | LOS  | Delay (sec) | LOS   | Delay (sec) |
| <b>EXISTING CONDITIONS</b> |                              |                   |             |  |             |   |             |
| SR 28/Fabian Way           | PM                           | A                 | 9.3         | B  | 11.0        | A   | 9.7         |
| SR 28/Old Mill Rd          | PM                           | B                 | 10.1        | B  | 10.7        | B   | 10.2        |
| Polaris Rd/Old Mill Rd     | PM                           | A                 | 7.1         | A  | 7.7         | A   | 7.1         |
| Polaris Rd/Village Dr      | PM                           | A                 | 8.9         | A  | 9.5         | A   | 9.5         |
| <b>FUTURE CONDITIONS</b>   |                              |                   |             |  |             |   |             |
| SR 28/Fabian Way           | PM                           | B                 | 10.3        | B  | 12.0        | B   | 10.9        |
| SR 28/Old Mill Rd          | PM                           | B                 | 10.6        | B  | 11.3        | B   | 10.8        |
| Polaris Rd/Old Mill Rd     | PM                           | A                 | 7.1         | A  | 7.7         | A   | 7.1         |
| Polaris Rd/Village Dr      | PM                           | A                 | 8.9         | A  | 9.5         | A   | 9.5         |

Note 1: The 'summer with project' LOS calculations are based on volumes from a previous analysis that assumed more activities at the site. These volumes are contained in Appendix B. The summer volumes associated with the currently proposed project would be lower than these volumes. As such, the LOS with the currently proposed project would be the same or better.

Note 2: The summer PM peak-hour volumes reflect a Friday in August, consistent with Placer County's standard design period.

Source: LSC Transportation Consultants, Inc.

2018 Tahoe XC.xlsx



This page intentionally left blank.

The parking evaluation of the Tahoe XC Lodge identifies the current demand of the existing XC facility as well as determines the capacity needed at the proposed facility. As the proposed new Tahoe XC site is adjacent to the High School, an analysis of the feasibility of shared parking is performed in order to consider whether peak parking demand of the XC lodge occurring on a weekend when school is not in session can be accommodated through use of the available parking at the high school. The peak parking demand is compared to the proposed parking supply for each alternative in order to determine the overall parking balance.

## **WINTER PARKING ANALYSIS**

### **Winter Skier Parking Demand**

Hourly parking lot volume counts for winter conditions were conducted at the existing Tahoe XC site on December 31, 2015 and again on Friday, January 15, 2016. Parking counts at the North Tahoe High School were conducted on Friday, January 15, 2016. These counts are presented in Table 7. The maximum observed parking activity was 123 cars parked around the XC center at the peak time on the peak day (New Year's Eve). As there was still available parking at this time, there was no potential that these counts did not reflect the full parking demand of the XC center.

Daily ticket sales data for the 2010/11 ski season (the most recent available good snow year at the time this study was conducted) were obtained and evaluated, considering the ratio of maximum parked cars to ticket sales on the dates of the parking surveys. Table 8 below presents the resulting estimate of the peak parking demand for each day of the ski season. The variation in ticket sales were used along with the observed parking demand on the two days to estimate the daily demand. This is also shown in the graph in Figure 11. Including the 10% growth, the absolute maximum parking demand associated with skier activity is 135.

### **Winter Additional Parking Demand**

Table 9 presents the estimation of parking demand associated with the additional activities at the proposed lodge. As discussed in the trip generation analysis, a 65-attendee gathering is assumed to occur in the evening. Applying the vehicle occupancy rates used in the trip generation analysis yields a total parking demand of approximately 38 vehicles for the gathering. However, given that the peak periods of skier-related parking activity occur earlier in the day, only 2 parking spaces (associated with the 2 staff for the gathering) are assumed to

| <b>TABLE 7: Winter Parking Counts</b> |                                   |                               |                 |                               |                 |                         |                 |                 |                 |       |                                       |                      |                    |       |
|---------------------------------------|-----------------------------------|-------------------------------|-----------------|-------------------------------|-----------------|-------------------------|-----------------|-----------------|-----------------|-------|---------------------------------------|----------------------|--------------------|-------|
| Hour Beginning                        | Tahoe Cross Country Parking Count |                               |                 |                               |                 |                         |                 |                 |                 |       | North Tahoe High School Parking Count |                      |                    | Total |
|                                       | XC Parking Lot                    | On Country Club Dr, West Side |                 | On Country Club Dr, East Side |                 | On Country Club Village |                 | On Highlands    |                 | Total | Lower Southern Lot                    | Middle Lot (Seniors) | Upper Northern Lot |       |
|                                       |                                   | On Country Club               | On Country Club | On Country Club               | On Country Club | On Country Club         | On Country Club | On Country Club | On Country Club |       |                                       |                      |                    |       |
| <u>Winter Holiday</u><br>12/31/2015   |                                   |                               |                 |                               |                 |                         |                 |                 |                 |       |                                       |                      |                    |       |
| 8:00 AM                               | 16                                | 0                             | 0               | 0                             | 0               | 0                       | 0               | 0               | 0               | 16    | -                                     | -                    | -                  | -     |
| 9:00 AM                               | 35                                | 1                             | 0               | 0                             | 0               | 0                       | 0               | 0               | 0               | 36    | -                                     | -                    | -                  | -     |
| 10:00 AM                              | 50                                | 17                            | 0               | 0                             | 0               | 0                       | 0               | 1               | 0               | 68    | -                                     | -                    | -                  | -     |
| 11:00 AM                              | 49                                | 24                            | 0               | 0                             | 0               | 7                       | 9               | 9               | 0               | 89    | -                                     | -                    | -                  | -     |
| 12:00 PM                              | 51                                | 25                            | 0               | 0                             | 0               | 16                      | 14              | 14              | 0               | 106   | -                                     | -                    | -                  | -     |
| 1:00 PM                               | 51                                | 30                            | 0               | 0                             | 0               | 22                      | 20              | 20              | 0               | 123   | -                                     | -                    | -                  | -     |
| 2:00 PM                               | 48                                | 31                            | 0               | 0                             | 0               | 16                      | 20              | 20              | 0               | 115   | -                                     | -                    | -                  | -     |
| 3:00 PM                               | 47                                | 23                            | 0               | 0                             | 0               | 10                      | 11              | 11              | 0               | 91    | -                                     | -                    | -                  | -     |
| 4:00 PM                               | 32                                | 13                            | 0               | 0                             | 0               | 3                       | 5               | 5               | 0               | 53    | -                                     | -                    | -                  | -     |
| <u>Winter Weekday</u><br>1/15/2016    |                                   |                               |                 |                               |                 |                         |                 |                 |                 |       |                                       |                      |                    |       |
| 8:00 AM                               | 6                                 | 0                             | 0               | 0                             | 0               | 0                       | 0               | 0               | 0               | 7     | 34                                    | 17                   | 40                 | 91    |
| 9:00 AM                               | 14                                | 0                             | 0               | 0                             | 0               | 0                       | 0               | 0               | 0               | 14    | 35                                    | 18                   | 45                 | 98    |
| 10:00 AM                              | 29                                | 0                             | 0               | 0                             | 0               | 0                       | 0               | 0               | 0               | 29    | 40                                    | 18                   | 46                 | 104   |
| 11:00 AM                              | 45                                | 4                             | 0               | 0                             | 0               | 0                       | 0               | 0               | 0               | 49    | 41                                    | 16                   | 46                 | 103   |
| 12:00 PM                              | 48                                | 12                            | 0               | 0                             | 0               | 0                       | 0               | 0               | 0               | 60    | 39                                    | 12                   | 40                 | 91    |
| 1:00 PM                               | 46                                | 11                            | 0               | 0                             | 0               | 0                       | 0               | 0               | 0               | 57    | 36                                    | 12                   | 42                 | 90    |
| 2:00 PM                               | 40                                | 9                             | 0               | 0                             | 0               | 0                       | 0               | 0               | 0               | 49    | 37                                    | 6                    | 35                 | 78    |
| 3:00 PM                               | 42                                | 4                             | 0               | 0                             | 0               | 0                       | 0               | 0               | 0               | 46    | 19                                    | 0                    | 15                 | 34    |
| 4:00 PM                               | 43                                | 18                            | 0               | 0                             | 0               | 0                       | 0               | 0               | 0               | 61    | 5                                     | 0                    | 20                 | 25    |

Source: LSC Transportation Consultants, Inc. 2018 Tahoe XC.xlsx

**TABLE 8: Estimated Daily Skier Peak Parking Demand**

Including 10 Percent Future Growth

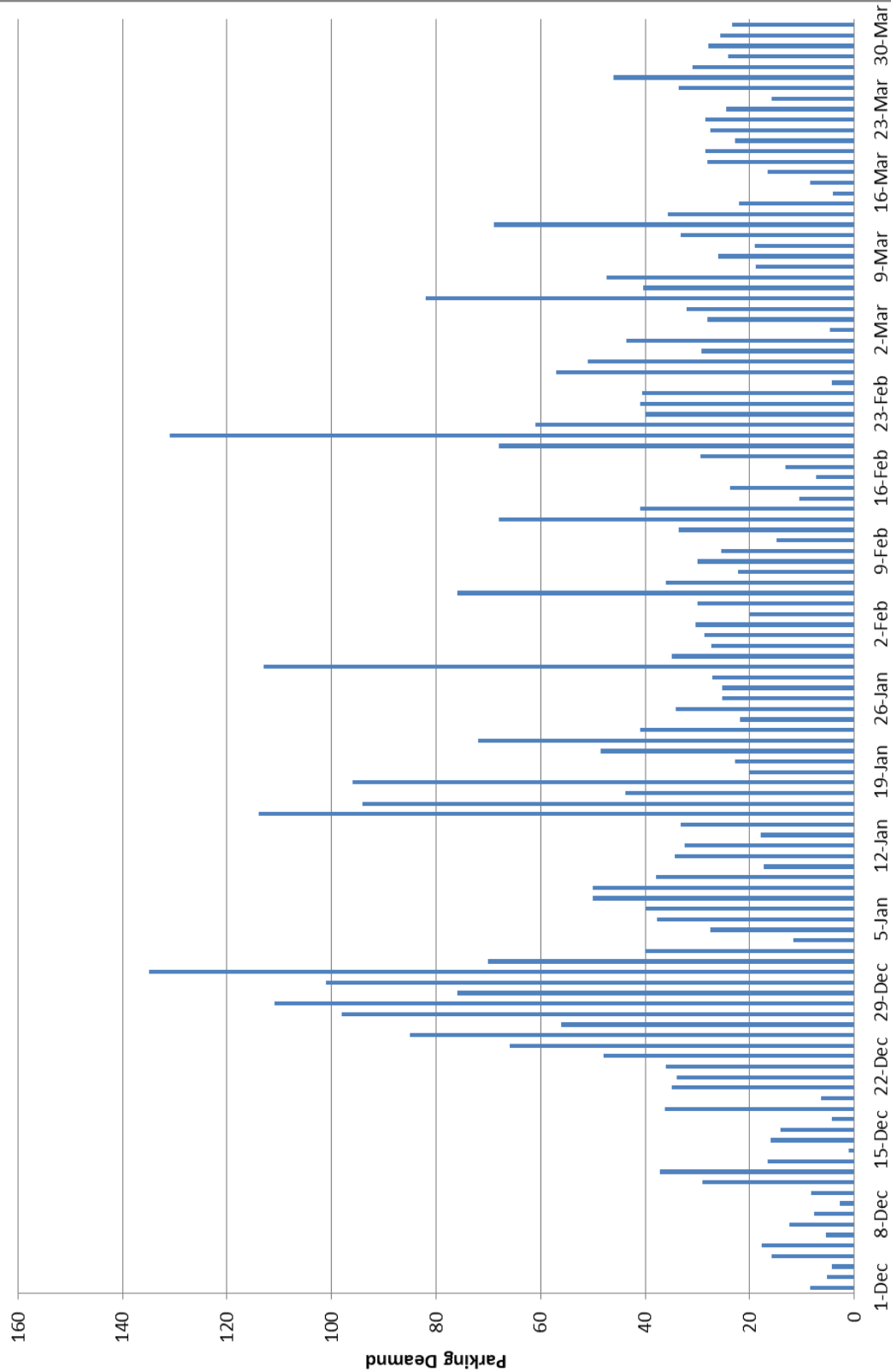
High School Days Shown in Blue

| January |                | February |                | March  |                | April  |                |
|---------|----------------|----------|----------------|--------|----------------|--------|----------------|
| Date    | Parking Demand | Date     | Parking Demand | Date   | Parking Demand | Date   | Parking Demand |
| 1-Dec   | 8              | 1-Jan    | 70             | 1-Feb  | 29             | 1-Mar  | 44             |
| 2-Dec   | 5              | 2-Jan    | 40             | 2-Feb  | 30             | 2-Mar  | 5              |
| 3-Dec   | 4              | 3-Jan    | 12             | 3-Feb  | 20             | 3-Mar  | 28             |
| 4-Dec   | 16             | 4-Jan    | 27             | 4-Feb  | 30             | 4-Mar  | 32             |
| 5-Dec   | 18             | 5-Jan    | 38             | 5-Feb  | 76             | 5-Mar  | 82             |
| 6-Dec   | 5              | 6-Jan    | 40             | 6-Feb  | 36             | 6-Mar  | 40             |
| 7-Dec   | 12             | 7-Jan    | 50             | 7-Feb  | 22             | 7-Mar  | 47             |
| 8-Dec   | 8              | 8-Jan    | 50             | 8-Feb  | 30             | 8-Mar  | 19             |
| 9-Dec   | 3              | 9-Jan    | 38             | 9-Feb  | 25             | 9-Mar  | 26             |
| 10-Dec  | 8              | 10-Jan   | 17             | 10-Feb | 15             | 10-Mar | 19             |
| 11-Dec  | 29             | 11-Jan   | 34             | 11-Feb | 34             | 11-Mar | 33             |
| 12-Dec  | 37             | 12-Jan   | 32             | 12-Feb | 68             | 12-Mar | 69             |
| 13-Dec  | 17             | 13-Jan   | 18             | 13-Feb | 41             | 13-Mar | 36             |
| 14-Dec  | 1              | 14-Jan   | 33             | 14-Feb | 11             | 14-Mar | 22             |
| 15-Dec  | 16             | 15-Jan   | 114            | 15-Feb | 24             | 15-Mar | 4              |
| 16-Dec  | 14             | 16-Jan   | 94             | 16-Feb | 7              | 16-Mar | 9              |
| 17-Dec  | 4              | 17-Jan   | 44             | 17-Feb | 13             | 17-Mar | 17             |
| 18-Dec  | 36             | 18-Jan   | 96             | 18-Feb | 29             | 18-Mar | 28             |
| 19-Dec  | 6              | 19-Jan   | 20             | 19-Feb | 68             | 19-Mar | 28             |
| 20-Dec  | 35             | 20-Jan   | 23             | 20-Feb | 131            | 20-Mar | 23             |
| 21-Dec  | 34             | 21-Jan   | 49             | 21-Feb | 61             | 21-Mar | 28             |
| 22-Dec  | 36             | 22-Jan   | 72             | 22-Feb | 40             | 22-Mar | 29             |
| 23-Dec  | 48             | 23-Jan   | 41             | 23-Feb | 41             | 23-Mar | 24             |
| 24-Dec  | 66             | 24-Jan   | 22             | 24-Feb | 40             | 24-Mar | 16             |
| 25-Dec  | 85             | 25-Jan   | 34             | 25-Feb | 4              | 25-Mar | 34             |
| 26-Dec  | 56             | 26-Jan   | 25             | 26-Feb | 57             | 26-Mar | 46             |
| 27-Dec  | 98             | 27-Jan   | 25             | 27-Feb | 51             | 27-Mar | 31             |
| 28-Dec  | 111            | 28-Jan   | 27             | 28-Feb | 29             | 28-Mar | 24             |
| 29-Dec  | 76             | 29-Jan   | 113            |        |                | 29-Mar | 28             |
| 30-Dec  | 101            | 30-Jan   | 35             |        |                | 30-Mar | 26             |
| 31-Dec  | 135            | 31-Jan   | 27             |        |                | 31-Mar | 23             |

Note: Based on parking counts conducted 12/31/15 and 1/15/16. Daily variation in activity is based on daily ticket sales from the 2010/2011 ski season.  
Source: LSC Transportation Consultants, Inc.

**Figure 11: Estimated Daily Parking Demand at Tahoe City Cross Country**

Based on Daily Activity in 2010/11 Season and Parking Counts in 15/16 Season, Including 10% Future Growth



**TABLE 9: Tahoe XC - Winter Additional Parking Demand**

| Zone  | Description                                       | Quantity |         | Units     | Vehicle Occupancy | Parking Demand of Individual Use |         | % Present in Peak Period | Parking Demand During Peak Period |          |  |
|---|---|----------|---------|-----------|-------------------|----------------------------------|---------|--------------------------|-----------------------------------|----------|--|
|   |   | Midweek  | Weekend |           |                   | Midweek                          | Weekend |                          | Midweek                           | Weekend  |  |
| <b>Proposed Lodge Site Additional Demand (excluding skier activity)</b> |   |          |         |           |                   |                                  |         |                          |                                   |          |  |
|   | <u>Gathering at New Lodge</u>                     |          |         |           |                   |                                  |         |                          |                                   |          |  |
|   | Attendees   | 65       | 65      | Attendees | 1.8               | 36                               | 36      | 0%                       | 0                                 | 0        |  |
|   | Staff   | 2        | 2       | Staff     | 1.1               | 2                                | 2       | 100%                     | 2                                 | 2        |  |
|   | <i>Subtotal Gathering at New Lodge</i>            |          |         |           |                   | 38                               | 38      |                          | 2                                 | 2        |  |
|   | Additional Employees at New Lodge (Weekends Only) | 0        | 2       | Staff     | 1.1               | 0                                | 2       | 100%                     | 0                                 | 2        |  |
|   | <b>Total Parking Demand Proposed Lodge</b>        |          |         |           |                   |                                  |         |                          | <b>2</b>                          | <b>4</b> |  |
| <b>Existing Lodge Site</b>  |   |          |         |           |                   |                                  |         |                          |                                   |          |  |
|   | <u>Potential Community Center</u>                 |          |         |           |                   |                                  |         |                          |                                   |          |  |
|   | Attendees   | 30       | 30      | Attendees | 2.5               | 12                               | 12      | 100%                     | 12                                | 12       |  |
|   | Staff/Service/Deliveries                          | 4        | 4       | Persons   | 1.0               | 4                                | 4       | 100%                     | 4                                 | 4        |  |
|   | <i>Total Community Center</i>                     |          |         |           |                   |                                  |         |                          | 16                                | 16       |  |
| Note:   |   |          |         |           |                   |                                  |         |                          |                                   |          |  |
| Source: LSC Transportation Consultants, Inc. 2018 Tahoe XC.xlsx         |   |          |         |           |                   |                                  |         |                          |                                   |          |  |

be needed for the gathering during the peak period of parking demand on the site, as the attendees would not be on site until later in the day.

As also shown in the table, there would be 2 additional XC staff on winter weekend days, requiring 2 parking spaces. The resulting total parking demand of the additional uses proposed at the lodge is 2 spaces on a weekday and 4 spaces on a weekend. These figures are added to the skier parking demand to determine the overall parking demand at the proposed lodge.

### **Winter Parking Demand at Potential Community Center**

With the proposed project, the existing lodge site is assumed to function as a community center. The peak parking demand of the community center is summarized in the lower portion of Table 9. As discussed in the trip generation analysis, a 30-attendee gathering is assumed to occur in winter, and 4 additional staff or service persons are assumed to be on the site. Applying the vehicle occupancy rates used in the trip generation analysis yields a total parking demand of approximately 16 vehicles.

### **Winter Parking Balance**

Table 10 presents a summary of the number of days with varying levels of peak skier parking demand. Adding the 4 spaces for the additional employees on site yields the total number of spaces needed at the proposed lodge, shown in the far right column of the table. This can be used to identify the number or percent of days that could be accommodated with the proposed onsite parking. The project proposes to provide 100 parking spaces (plus two bus loading spaces) at the new lodge facility. As indicated in Table 10, this would accommodate the peak parking demand on 94% of the days (with only 7 days per year requiring parking off-site). The maximum number of cars that would need to park off-site is estimated to be 39 (139 maximum demand minus 100 parked on-site).

The parking counts conducted on January 15th also included the parking lots at the High School. The maximum High School parking demand was observed to be 104 cars. There are a total of 215 spaces on the High School side of the campus (excluding the Middle School side). Taking a 15 percent reduction for snow storage, 183 spaces are available in a snowy winter. Subtracting the observed peak demand, up to 79 spaces are currently available on school days, potentially available for use by XC skiers. Note that this does not reflect special events at the school, such as a basketball game.

| <b>TABLE 10: Days per Winter Season by Peak Parking Demand</b><br><i>Including 10 Percent Future Growth</i> |            |                   |   |  |
|---|------------|-------------------|---|--|
| Peak Parked Skier Vehicles  | Days       | Percent of Season | Total Parked Vehicles at Proposed Lodge (including skier activity + 4 additional employees) | Days That Demand Exceeds Supply <sup>1</sup> |
| 135   | 1          | 1%                | 139   | 1  |
| 100-134   | 5          | 4%                | 138   | 5  |
| 96-100  | 1          | 1%                | 104   | 1  |
| 90-96   | 2          | 2%                | <b>100</b>  | -  |
| 80-90   | 2          | 2%                | 94  | -  |
| 70-80   | 4          | 3%                | 84  | -  |
| 60-70   | 5          | 4%                | 74  | -  |
| 50-60   | 5          | 4%                | 64  | -  |
| 40-50   | 13         | 11%               | 54  | -  |
| 30-40   | 21         | 17%               | 44  | -  |
| 20-30   | 31         | 26%               | 34  | -  |
| 10-20   | 16         | 13%               | 24  | -  |
| 0-10  | 15         | 12%               | 14  | -  |
| <i>Total days</i>   | <i>121</i> | <i>100%</i>       |   | <i>7</i>                                     |
| <i>Percent of Winter Season Days That Demand Exceeds Supply</i>   |            |                   |   | <i>6%</i>                                    |
| <b><i>Percent of Winter Season Days That Can Be Accommodated at Proposed Lodge</i></b>                      |            |                   |   | <b><i>94%</i></b>                            |
| Note 1: Excludes consideration of high school lot supply.<br>Source: LSC Transportation Consultants, Inc.   |            |                   |   | 2019 Tahoe XC.xlsx                           |

Table 8 shows the days that the High School is in session, which is useful in assessing the ability for high school parking areas to accommodate the off-site parking. For instance, the busiest day that is also a school day is January 18th, with a peak skier parking demand of 96 spaces, resulting in a total parking demand of 100 spaces (including the 4 additional employee spaces). As 100 spaces would be provided at the new lodge site, no high school parking spaces would be needed. As such, barring a special event at the high school or ski area, adequate overall parking supply would be provided on school days without the potential for “spill-over” parking occurring on nearby residential streets. Moreover, school special events during a school day does not result in a shortage of XC spaces, as all XC parking demand during a school day can be provided within the XC site (regardless of the time of day that the school special event occurs).

On non-school days, with 100 spaces onsite up to 39 high school spaces would be required, which is well below the 183 spaces in the high school lots. This therefore would provide more than adequate parking, barring a special event (like a Saturday basketball tournament). If the proposed new site is selected and limited onsite parking provided, there would need to be careful coordination between special events occurring at the high school and the ski area, to ensure that high school special events do not coincide with expected days of peak ski area parking demand.



### Winter Parking Balance at Community Center

Finally, as the existing XC site provides 46 parking spaces, implementation of the potential community center would result in an excess of approximately 30 spaces at the existing site (46 minus 16 needed for the community center).

### Parking Balance Under Project Alternative (Site A)

If the new lodge is constructed at the existing site under the project alternative (Site A), the parking demand would be the same as under the proposed project (Site D). The parking supply would also be the same, with 100 parking spaces (plus two bus loading spaces). This would accommodate the peak parking demand on 94% of the days (with only 7 days per year of parking off-site). The maximum number of cars that would need to park off-site is estimated to be 39 (139 maximum demand minus 100 parked on-site).

## **SUMMER PARKING ANALYSIS**

The summer season for purposes of this analysis is defined as after the close of school in June and prior to the opening of school in late August or early September.

### **Summer Existing Parking Demand**

Hourly parking lot volume counts for summer conditions were conducted at the existing XC site and at North Tahoe High School on Saturday, August 18, 2018 to capture a typical summer weekend day. Additional counts were conducted on Sunday, August 26, 2018 to capture the volumes when a major event was hosted (a mountain biking event at the high school).

On a typical summer day, the existing XC parking lot had a maximum of 19 vehicles (which occurred at the noon hour) and the high school area had 4 parked cars (in the 10:00 AM hour). On the large-scale event day, a maximum of 26 vehicles were observed in the existing cross-country center parking lot (in the noon hour) and 283 vehicles were observed in the high school parking lot. Table 11 summarizes the summer hourly parking demands in the various areas that were counted.

### **Summer Total Parking Demand**

Table 12 presents the estimation of parking demand associated with the proposed lodge. The assumed additional activities over the course of a busy summer day (shown in the left-hand columns) are the same as those applied in the trip generation analysis. Dividing the number of persons by their average vehicle occupancy rate yields the total parking demand of each individual use. Next, the portion of the parked vehicles for each individual use estimated to be on-site during the peak parking period is applied, in order to determine the total parking demand during the peak period. The peak parking period is expected to occur after vehicles arrive for an evening gathering event. During this period, all other uses are assumed to have

100% of the vehicles present, except the general trailhead use and bike rental customers, and the early daytime meeting. Based on a review of the hourly parking counts at the existing site, the parking demand in the late afternoon/early evening equates to about 26% of the maximum parking demand. In order to remain conservative in the parking analysis, 33% of vehicles for these uses are assumed to be present during the peak period. No cars associated with the early day meeting are expected to be parked onsite during the peak period. As shown, the resulting total peak parking demand at the proposed new lodge is 62 vehicles on a typical busy summer day.

### **Parking Demand with a Large Event**

With a large event occurring at the high school, the peak period of parking demand occurs around the noon hour, when 283 cars are parked at the high school areas. The proportion of vehicles present for each activity at the proposed new XC lodge during the mid-day period is shown in Table 13. The total parking demand at the new XC lodge during this period is estimated to be approximately 45 vehicles. Adding 283 and 45 yields a total combined peak parking demand of 328 vehicles during a large event at the high school.

### Summer Parking Demand of Community Center

The summer parking demand of the potential community center at the existing site is less than the winter demand, given that a 15-attendee gathering is assumed to occur in summer (vs. 30 attendees in winter), with 2 additional staff or service persons assumed to be on the site. Applying the vehicle occupancy rates used in the trip generation analysis yields a total parking demand of approximately 8 vehicles.

### **Summer Parking Balance**

Subtracting the peak parking demand at the proposed lodge (62 spaces) from the proposed supply (100 spaces) yields an excess of 38 spaces in summer. As such, no parking concerns are identified on typical busy summer days.

On a summer day with a large event at the high school, a maximum of 328 cars are expected to be parked in the high school and XC lots. A total of 215 spaces at the high school plus 100 spaces at the proposed lodge yields 315 available spaces. Subtracting 315 from 328 vehicles yields a parking shortfall between the high school lots and XC lot of 13 spaces during peak periods with large summer events.

### Summer Parking Balance at Community Center

As the existing XC site provides 46 parking spaces, implementation of the potential community center would result in an excess of approximately 38 spaces at the existing site (46 minus 8 needed for the community center).

| TABLE 11: Summer Parking Counts        |          | Existing Tahoe Cross Country Center |          |               |                    |                    |                    |                    |            |              |       | North Tahoe High School        |        |                      |                            |                    |                      |  |                    |       |
|--|----------|-------------------------------------|----------|---------------|--------------------|--------------------|--------------------|--------------------|------------|--------------|-------|--------------------------------|--------|----------------------|----------------------------|--------------------|----------------------|--|--------------------|-------|
|  |          | Cedarwood                           |          | On Country    |                    | On Country         |                    | On Village         |            | On Highlands |       | Polaris Road - South of School |        |                      | Lower Southern Lot (Staff) |                    | Middle Lot (Seniors) |  | Upper Northern Lot | Total |
|  |          | XC Parking Lot                      | West End | West Dead End | Club Dr, West Side | Club Dr, East Side | On Country Club Dr | On Country Club Dr | On Village | On Highlands | Total | West Lot                       | School | Southern Lot (Staff) | Middle Lot (Seniors)       | Upper Northern Lot | Total                |  |                    |       |
| <u>Typical Summer Day</u><br>8/18/2018 |          | 3                                   | 0        | 0             | 2                  | 2                  | 2                  | 2                  | 8          | 15           | -     | -                              | 1      | 0                    | 4                          | 5                  |                      |  |                    |       |
|  | 8:00 AM  |                                     |          |               |                    |                    |                    |                    |            |              |       |                                |        |                      |                            |                    |                      |  |                    |       |
|  | 9:00 AM  | 6                                   | 0        | 0             | 2                  | 2                  | 2                  | 5                  | 15         |              |       | 1                              | 0      | 2                    | 3                          |                    |                      |  |                    |       |
|  | 10:00 AM | 13                                  | 6        | 1             | 2                  | 1                  | 1                  | 4                  | 27         |              |       | 0                              | 0      | 4                    | 4                          |                    |                      |  |                    |       |
|  | 11:00 AM | 15                                  | 9        | 0             | 2                  | 1                  | 1                  | 6                  | 33         |              |       | 0                              | 0      | 3                    | 3                          |                    |                      |  |                    |       |
|  | 12:00 PM | 19                                  | 6        | 0             | 2                  | 1                  | 1                  | 3                  | 31         |              |       | 0                              | 0      | 3                    | 3                          |                    |                      |  |                    |       |
|  | 1:00 PM  | 10                                  | 0        | 0             | 2                  | 2                  | 2                  | 3                  | 17         |              |       | 0                              | 0      | 3                    | 3                          |                    |                      |  |                    |       |
|  | 2:00 PM  | 8                                   | 0        | 0             | 2                  | 2                  | 2                  | 3                  | 15         |              |       | 0                              | 0      | 2                    | 2                          |                    |                      |  |                    |       |
|  | 3:00 PM  | 6                                   | 0        | 0             | 2                  | 2                  | 2                  | 3                  | 13         |              |       | 0                              | 0      | 2                    | 2                          |                    |                      |  |                    |       |
|  | 4:00 PM  | 5                                   | 0        | 0             | 2                  | 2                  | 2                  | 3                  | 12         |              |       | 0                              | 0      | 2                    | 2                          |                    |                      |  |                    |       |
| <u>Summer Event Day</u><br>8/26/2018   |          | 6                                   | -        | -             | -                  | 2                  | 2                  | 5                  | 13         | N/A          | N/A   | 2                              | 19     | 45                   | 66                         |                    |                      |  |                    |       |
|  | 8:00 AM  |                                     |          |               |                    |                    |                    |                    |            |              |       |                                |        |                      |                            |                    |                      |  |                    |       |
|  | 9:00 AM  | 10                                  | 2        | -             | -                  | 1                  | 1                  | 4                  | 17         | N/A          | N/A   | 29                             | 28     | 83                   | 140                        |                    |                      |  |                    |       |
|  | 10:00 AM | 18                                  | 3        | -             | -                  | 1                  | 1                  | 4                  | 26         | N/A          | N/A   | 63                             | 30     | 86                   | 179                        |                    |                      |  |                    |       |
|  | 11:00 AM | 22                                  | 2        | -             | -                  | 1                  | 1                  | 4                  | 29         | N/A          | N/A   | 74                             | 35     | 90                   | 199                        |                    |                      |  |                    |       |
|  | 12:00 PM | 26                                  | 1        | -             | -                  | 1                  | 1                  | 4                  | 32         | 55           | 22    | 74                             | 37     | 95                   | 283                        |                    |                      |  |                    |       |
|  | 1:00 PM  | 25                                  | 0        | -             | -                  | 1                  | 1                  | 4                  | 30         | 38           | 20    | 62                             | 27     | 86                   | 233                        |                    |                      |  |                    |       |
|  | 2:00 PM  | 14                                  | 0        | -             | -                  | 3                  | 3                  | 4                  | 21         | 21           | 11    | 53                             | 26     | 82                   | 193                        |                    |                      |  |                    |       |
|  | 3:00 PM  | 11                                  | 0        | -             | -                  | 4                  | 4                  | 3                  | 18         | 9            | 6     | 33                             | 20     | 71                   | 139                        |                    |                      |  |                    |       |
|  | 4:00 PM  | 11                                  | 1        | -             | -                  | 2                  | 2                  | 4                  | 18         | 0            | 0     | 0                              | 0      | 8                    | 8                          |                    |                      |  |                    |       |

Source: LSC Transportation Consultants, Inc.

2018 Tahoe XC.xlsx

**TABLE 12: Tahoe XC - Summer Parking Demand on Typical Busy Day**

| Zone  | Description                                  | Quantity | Units        | Average Vehicle Occupancy | Parking Demand of Individual Use | % Present in Peak Period (late afternoon) | Peak Period Parking Demand |
|---|--|----------|--------------|---------------------------|----------------------------------|---|----------------------------|
| <b>Proposed Lodge Site</b>                          |  |          |              |                           |                                  |   |                            |
| <u>Summer Visitation</u>                            |  |          |              |                           |                                  |   |                            |
|   | Existing Lodge & Trailhead Use               | 19       | Vehicles     | n/a                       | 19                               | 33%                                       | 7                          |
| <u>Add Gatherings at New Lodge</u>                  |  |          |              |                           |                                  |   |                            |
|   | Evening Event Attendees                      | 65       | Attendees    | 1.8                       | 37                               | 100%                                      | 37                         |
|   | Early Day Meeting                            | 15       | Attendees    | 1.8                       | 9                                | 0%  | 0                          |
|   | <i>Subtotal Gatherings</i>                   |          |              |                           |                                  |   | 37                         |
|   | Additional Bike Rental Customers             | 5        | Customers    | 2.5                       | 2                                | 33%                                       | 1                          |
|   | Additional Lodge/Cafe/Rental Staff Employees | 4        | Employees    | 1.1                       | 4                                | 100%                                      | 4                          |
| <u>Additional Youth Camp</u>                        |  |          |              |                           |                                  |   |                            |
|   | Participants                                 | 15       | Participants | 1.5                       | 10                               | 100%                                      | 10                         |
|   | Staff  | 3        | Staff        | 1.1                       | 3                                | 100%                                      | 3                          |
|   | <i>Subtotal Youth Camp</i>                   |          |              |                           |                                  |   | 13                         |
|   | <b>Total at Proposed Site</b>                |          |              |                           |                                  |   | <b>62</b>                  |
| <b>Existing Lodge Site</b>                          |  |          |              |                           |                                  |   |                            |
| <u>Potential Community Center</u>                   |  |          |              |                           |                                  |   |                            |
|   | Attendees                                    | 15       | Attendees    | 2.5                       | 6                                | 100%                                      | 6                          |
|   | Staff  | 2        | Persons      | 1.0                       | 2                                | 100%                                      | 2                          |
|   | <i>Subtotal Community Center</i>             |          |              |                           |                                  |   | 8                          |
| <i>Source: LSC Transportation Consultants, Inc.</i> |  |          |              |                           |                                  |   |                            |

**TABLE 13: Tahoe XC - Summer Parking Demand During Large Event at High School**

| Zone                  | Description                                  | Quantity | Units        | Average Vehicle Occupancy | Parking Demand of Individual Use | % Present in Peak Period (mid-day) | Peak Period Parking Demand |
|-----------------------|--|----------|--------------|---------------------------|----------------------------------|------------------------------------|----------------------------|
| <b>Proposed Lodge</b> |  |          |              |                           |                                  |                                    |                            |
|                       | <u>Summer Visitation</u>                     |          |              |                           |                                  |                                    |                            |
|                       | Existing Lodge & Trailhead Use (noon hour)   | 26       | Vehicles     | n/a                       | 26                               | 100%                               | 26                         |
|                       | <u>Add Gatherings at New Lodge</u>           |          |              |                           |                                  |                                    |                            |
|                       | Evening Event Attendees                      | 65       | Attendees    | 1.8                       | 36                               | 0%                                 | 0                          |
|                       | Early Day Meeting                            | 15       | Attendees    | 1.8                       | 8                                | 100%                               | 8                          |
|                       | <i>Subtotal Gatherings</i>                   |          |              |                           |                                  |                                    | 8                          |
|                       | Additional Bike Rental Customers             | 5        | Customers    | 2.5                       | 2                                | 100%                               | 2                          |
|                       | Additional Lodge/Café/Rental Staff Employees | 4        | Employees    | 1.1                       | 4                                | 100%                               | 4                          |
|                       | <u>Additional Youth Camp</u>                 |          |              |                           |                                  |                                    |                            |
|                       | Participants                                 | 15       | Participants | 1.5                       | 10                               | 15%                                | 2                          |
|                       | Staff  | 3        | Staff        | 1.1                       | 3                                | 100%                               | 3                          |
|                       | <i>Subtotal Youth Camp</i>                   |          |              |                           |                                  |                                    | 5                          |
|                       | <b>Total Parking Demand With Large Event</b> |          |              |                           |                                  |                                    | <b>45</b>                  |

Note:

Source: LSC Transportation Consultants, Inc.

2018 Tahoe XC.xlsx

### Parking Balance under Project Alternative (Site A)

If the new lodge is constructed at the existing site under the project alternative (Site A), the parking demand would be the same as under the proposed project (Site D). As the parking supply would also be the same, there would be an excess of 38 spaces on a typical busy summer day.

On a summer day with a large event at the high school, a maximum of 45 cars are expected to be parked in the XC lot during the peak period. Subtracting 45 cars from 100 proposed spaces yields a parking surplus of 55 spaces on site.

### **PARKING ANALYSIS DURING PEAK SCHOOL EVENTS IN THE NON-WINTER SEASONS**

There are some school-related events that currently use 100 percent of available school parking, such as cross-country meets, during non-ski periods. At these times, no parking is available for XC activities on the school site, limiting the available parking to the 100 spaces on the XC site. Referring to Table 12, XC parking generation during these periods could include the existing summer visitation, the additional gatherings at the new lodge, additional bike rental customers and additional lodge/café rental staff employees, but would exclude the youth camp as it would not be in operation during the school-related events. The maximum parking demand generated by XC uses would therefore be 49 vehicles, which could be accommodated within the proposed XC parking facility (and could provide additional parking for spillover school parking demand).

This page intentionally left blank.

This transportation impact analysis considers transportation effects that are related to measurable changes in traffic, parking, vehicle miles traveled and other impacts governed by adopted regulatory standards. Transportation safety, while it is an important consideration, is not governed by measurements that can numerically identify “safe” or “unsafe” conditions. Professional impact assessment relies on data collection that addresses conditions which can contribute to a safer or less safe transportation system. For this analysis, data is presented for the following safety-related issues. As a whole, this data allows consideration of the proposed project impacts on transportation safety.

The following transportation safety-related issues are included in this section:

- Historical crash data analysis
- Proposed driveway spacing
- Speed surveys
- Driver sight distance conditions
- Bicycle and pedestrian conditions
- Impact on school access conditions

### **HISTORICAL CRASH DATA**

Per County Public Works engineering staff, the industry standard for assessing traffic safety data is comparison with data generated by the Statewide Integrated Traffic Records System (SWITRS), as this provides a larger database for comparison and as no available data beyond the SWITRS database is available for Placer County roadways. To evaluate crashes at the priority intersection and roadway locations, the crash data from 2008-2017 (the most recent 10-year period available when data was collected) were compiled. Any crash within 200 feet of a study intersection was classified as an intersection crash, while incidents occurring beyond 200 feet from a study intersection were classified as roadway crashes. Crash data from January 1, 2008 through December 31, 2017 was reviewed.

#### **Intersection Crash Data**

Table 14 summarizes the intersection crash data. Key details of the crash data are as follows:

- A total of 22 incidents occurred at the four study intersections. Adding 5 crashes at other neighborhood intersections yields a total of 27 incidents at intersections within the project area.



- About half (14) of the intersection crashes occurred at the intersection of SR 28 and Fabian Way. Nearly half (6) of these crashes resulted in injuries, and 2 of the injury crashes involved a bicyclist/pedestrian.
- More than half (63%) of the total intersection crashes resulted in property damage only.
- Three (3) of the total intersection crashes involved a bicyclist/pedestrian, resulting in a total of 3 injured bicyclists/pedestrians. Crashes involving a bicyclist/pedestrian occurred at the following intersections:

| <b>Table 14: Crash Data Summary by Intersection Location</b><br>2008 to 2017 Includes Crashes on Cross Streets Within 200 Feet of the Intersection |                         |                                  |                              |                      |            |           |                   |                 |            |            |            |           |           |            |              |            |            |                    |           |            |              |                 |
|--|-------------------------|----------------------------------|------------------------------|----------------------|------------|-----------|-------------------|-----------------|------------|------------|------------|-----------|-----------|------------|--------------|------------|------------|--------------------|-----------|------------|--------------|-----------------|
| Primary Road   | Intersecting Road       | Total Study Intersection Crashes | % Total Intersection Crashes | Crashes By Severity  |            |           |                   | Crashes by Type |            |            |            |           |           | Weather    |              |            |            | Lighting           |           |            |              |                 |
|  |                         |                                  |                              | Property Damage Only | Injury     | Fatality  | Bike/Ped Involved | Broadside       | Sideswipe  | Rear End   | Hit Object | Head-On   | Auto/Ped  | Other      | Clear/Cloudy | Raining    | Snowing    | Other / Not Stated | Daylight  | Dusk/Dawn  | Dark- ST LTS | Dark- NO ST LTS |
| SR 28  | Fabian Way              | 14                               | 52%                          | 8                    | 6          | 0         | 2                 | 6               | 2          | 4          | 0          | 1         | 1         | 7          | 0            | 7          | 0          | 11                 | 0         | 2          | 0            | 1               |
| SR 28  | Old Mill Road           | 3                                | 11%                          | 2                    | 1          | 0         | 0                 | 0               | 0          | 1          | 2          | 0         | 0         | 3          | 0            | 0          | 0          | 1                  | 0         | 1          | 0            | 1               |
| Old Mill Road  | Polaris Road            | 4                                | 15%                          | 3                    | 1          | 0         | 0                 | 1               | 2          | 0          | 0          | 1         | 0         | 1          | 0            | 2          | 1          | 4                  | 0         | 0          | 0            | 0               |
| Village Road   | Polaris Road            | 1                                | 4%                           | 0                    | 1          | 0         | 0                 | 0               | 0          | 0          | 1          | 0         | 0         | 0          | 0            | 0          | 1          | 0                  | 0         | 1          | 0            | 0               |
| <b>STUDY INTERSECTION TOTAL</b>  |                         | <b>22</b>                        |                              | <b>13</b>            | <b>9</b>   | <b>0</b>  | <b>2</b>          | <b>7</b>        | <b>4</b>   | <b>5</b>   | <b>3</b>   | <b>1</b>  | <b>1</b>  | <b>11</b>  | <b>0</b>     | <b>9</b>   | <b>2</b>   | <b>16</b>          | <b>0</b>  | <b>4</b>   | <b>0</b>     | <b>2</b>        |
| Polaris Road   | High School Parking Lot | 2                                | 7%                           | 2                    | 0          | 0         | 0                 | 0               | 0          | 0          | 2          | 0         | 0         | 0          | 0            | 0          | 2          | 1                  | 0         | 0          | 0            | 1               |
| Polaris Road   | Heather Lane            | 3                                | 11%                          | 2                    | 1          | 0         | 1                 | 1               | 1          | 0          | 1          | 0         | 0         | 3          | 0            | 0          | 0          | 3                  | 0         | 0          | 0            | 0               |
| <b>OTHER SIGNIFICANT INTERSECTIONS</b>   |                         | <b>5</b>                         |                              | <b>4</b>             | <b>1</b>   | <b>0</b>  | <b>1</b>          | <b>1</b>        | <b>1</b>   | <b>0</b>   | <b>3</b>   | <b>0</b>  | <b>0</b>  | <b>3</b>   | <b>0</b>     | <b>0</b>   | <b>2</b>   | <b>4</b>           | <b>0</b>  | <b>0</b>   | <b>0</b>     | <b>1</b>        |
| <b>TOTAL INTERSECTIONS</b>   |                         | <b>27</b>                        | <b>100%</b>                  | <b>17</b>            | <b>10</b>  | <b>0</b>  | <b>3</b>          | <b>8</b>        | <b>5</b>   | <b>5</b>   | <b>6</b>   | <b>1</b>  | <b>1</b>  | <b>14</b>  | <b>0</b>     | <b>9</b>   | <b>4</b>   | <b>20</b>          | <b>0</b>  | <b>4</b>   | <b>0</b>     | <b>3</b>        |
| <b>% Intersection Crashes</b>  |                         |                                  |                              | <b>63%</b>           | <b>37%</b> | <b>0%</b> | <b>11%</b>        | <b>30%</b>      | <b>19%</b> | <b>19%</b> | <b>22%</b> | <b>4%</b> | <b>4%</b> | <b>52%</b> | <b>0%</b>    | <b>33%</b> | <b>15%</b> | <b>74%</b>         | <b>0%</b> | <b>15%</b> | <b>0%</b>    | <b>11%</b>      |

Source: SWITRS and LSC Transportation Consultants Inc.

2018 Tahoe XC.xlsx

- SR 28 / Fabian Way (2 crashes) – Crash data indicates both incidents occurred on the highway, between Fabian Way and 7-11. One crash involved a vehicle making an improper turn movement during the daytime, while the other was a hit and run felony in the dark by a driver traveling at an unsafe speed, and alcohol was involved.
- Polaris Road / Heather Lane (1 crash) – Occurred on Polaris just east of Heather on a weekday morning in July.
- No fatalities were reported at any of the intersections.
- As shown in the middle columns of the table, the most common crash types are as follows:
  - Broadside (30%)
  - Hit Object (22%)
  - Sideswipe and Rear End (both 19%)
- Approximately one-third (9) of the total crashes occurred when it was snowing. Most (7) of these crashes occurred at the SR 28/Fabian Way intersection.

Table 15 provides a comparison of the actual crash rates with statewide average crash rates for similar intersection types. Statewide average crash rates are based solely on rates observed on the state highway system. As indicated, 4 intersections have total crash rates that exceed the statewide averages, and 3 intersections have injury crash rates exceeding the statewide averages. The following three intersections have “total” and injury crash rates that are more than double the statewide average rates:

- SR 28 / Fabian Way (43% injury crashes, 43% Broadside type)
- Old Mill Road / Polaris Road (25% injury crashes, 25% Sideswipe type)
- Polaris Road / Heather Lane (33% injury crashes, 33% Broadside/Sideswipe/Hit Object)

Note the statewide average crash rates are derived based on intersections along State Highways only. The very large majority of traffic activity along highways in California occurs in non-snowy areas where it rarely freezes. It can be expected that crash rates would be higher in the Sierra and this is reflected in that approximately 33 percent of intersection crashes in the study area occurred under snowy/icy road conditions. At the SR 28/Fabian Way intersection, half of the crashes occurred when it was snowing. The relatively high observed crash rates may also reflect the limited driver experience level of high school students’ travel to/from the high school. As also discussed below, increasing traffic at locations exceeding the statewide average is not necessarily a significant impact.

| <b>Table 15: Intersection Crash Rates</b>  |                         |                            |                       |  |                       |   |                    |
|--|-------------------------|----------------------------|-----------------------|--|-----------------------|---|--------------------|
| 2008 to 2017 Includes Crashes on Cross Streets Within 200 Feet of the Intersection |                         |                            |                       |  |                       |   |                    |
|  |                         | Study Intersection Crashes |                       | Estimated Crash Rate<br>(Crashes per Million Vehicle<br>Movements <sub>1</sub> ) |                       | Statewide Average Crash<br>Rate By Intersection Type <sub>2</sub> |                    |
| Primary Road   | Intersecting Road       | Total                      | Injury or<br>Fatality | Total  | Injury or<br>Fatality | Total   | Injury or<br>Fatal |
| SR 28  | Fabian Way              | 14                         | 6                     | <b>0.37</b>  | <b>0.16</b>           | 0.16  | 0.07               |
| SR 28  | Old Mill Road           | 3                          | 1                     | 0.09   | 0.03                  | 0.16  | 0.07               |
| Old Mill Road  | Polaris Road            | 4                          | 1                     | <b>0.41</b>  | 0.10                  | 0.33  | 0.17               |
| Village Road   | Polaris Road            | 1                          | 1                     | 0.14   | <b>0.14</b>           | 0.22  | 0.10               |
| <b>STUDY INTERSECTION TOTAL</b>  |                         | <b>22</b>                  | <b>9</b>              |  |                       |   |                    |
| Polaris Road   | High School Parking Lot | 2                          | 0                     | <b>0.21</b>  | 0.00                  | 0.16  | 0.07               |
| Polaris Road   | Heather Lane            | 3                          | 1                     | <b>0.31</b>  | <b>0.10</b>           | 0.16  | 0.07               |
| <b>OTHER SIGNIFICANT INTERSECTIONS</b>   |                         | <b>5</b>                   | <b>1</b>              |  |                       |   |                    |
| <b>STUDY AREA TOTAL</b>  |                         | <b>27</b>                  | <b>10</b>             |  |                       |   |                    |
| Note 1: Bold indicates a crash rate higher than the average rate                   |                         |                            |                       |  |                       |   |                    |
| Note 2: State Crash Rates from 2016 Collision Data on California State Highways    |                         |                            |                       |  |                       |   |                    |
| Source: LSC Transportation Consultants Inc.  |                         |                            |                       |  |                       | 2018 Tahoe XC.xlsx  |                    |

## Roadway Segment Crash Data

Tables 16 and 17 summarize the roadway segment crash data. Key details of the crash data are as follows:

- There were a total of 11 crashes on roadway segments within the study area, with about half (5) occurring along Old Mill Road. All crashes along Old Mill Road and the majority of the other crashes resulted in property damage only, for a total of 9 crashes resulting in property damage only.
- The most common (27%) crash type is “Hit Object”, and the majority of the crashes occurred in the daylight.
- A total of 5 crashes occurred along Old Mill Road, with no injuries reported. None of the crashes on Old Mill Road were reported to involve pedestrians or bicyclists.
- The other 2 (of 11) crashes involved a bicyclist/pedestrian, and both crashes resulted in injuries. Both incidents involving a bike/pedestrian occurred on days when school was not in session.



**Table 17: Roadway Crash Rates**

2008 to 2017 Includes Crashes on Streets Greater than 200 Feet from the Intersections

| Intersecting Street     | Between       | And                | Roadway Crashes |             | Estimated Crash Rate<br>(Crashes per Million<br>Vehicle Miles) |                       | Countywide Average<br>Crash Rate By Roadway<br>Type <sub>1</sub> |                       |
|-------------------------|---------------|--------------------|-----------------|-------------|--|-----------------------|--|-----------------------|
|                         |               |                    | Total           | Injury      | Total  | Injury or<br>Fatality | Total  | Injury or<br>Fatality |
|                         |               |                    | Polaris Road    | High School | Heather Lane   | 1                     | 0  | 0.72                  |
| Polaris Road            | Heather Lane  | Old Mill Road      | 0               | 0           | 0.00   | 0.00                  | 0.98   | 0.37                  |
| Polaris Road            | Old Mill Road | Village Road       | 2               | 1           | <b>1.91</b>  | <b>0.96</b>           | 0.98   | 0.37                  |
| Old Mill Road           | SR-28         | Polaris Road       | 5               | 0           | <b>2.47</b>  | 0.00                  | 0.98   | 0.37                  |
| Village Road/Fabian Way | SR-28         | Polaris Road       | 2               | 1           | <b>1.44</b>  | <b>0.72</b>           | 0.98   | 0.37                  |
| Village Road            | Polaris Road  | Country Club Drive | 1               | 0           | 0.60   | 0.00                  | 0.98   | 0.37                  |
| Country Club Drive      | Village Road  | Highlands Drive    | 0               | 0           | 0.00   | 0.00                  | 0.98   | 0.37                  |
| <b>TOTAL</b>            |               |                    | <b>11</b>       | <b>2</b>    |  |                       |  |                       |

Note 1: Bold indicates a crash rate higher than the average rate

Note 2: County Crash Rates from 2016 Collision Data on California State Highways on 2 and 3 lane roadways in Placer County

Source: LSC Transportation Consultants Inc.

2018 Tahoe XC.xlsx

- One crash occurred on Polaris Road just east of Old Mill Road early on Saturday morning, and it was recorded as a “pedestrian violation”. The other crash occurred on
- Fabian Way about 90 feet east of Village Road on a summer weekday (mid-day), and it involved a vehicle traveling at an unsafe speed.
- No fatalities were reported in the study area over the 10-year period.

Table 17 provides a comparison of the actual crash rates with countywide average crash rates for 2 & 3 lane rural Caltrans highways within Placer County. As indicated, the following three roadway segments have total crash rates that exceed the countywide averages, including two segments with injury crash rates also exceeding the countywide averages:

- Polaris Road between Old Mill and Village (total crash rate almost double the average, injury rate about 2.5 times higher than average)
- Old Mill Road (total crash rate about 2.5 times higher than average)
- Fabian Way and Village Road between SR 28 and Polaris (total crash rate about 1.5 times the average rate, injury rate almost double the average)

It is worth noting that the statewide average crash rates are derived only from crashes occurring on State Highways in Placer County. They do not reflect crash data on local roads like the roads evaluated in this study. Due to the relatively low traffic volumes on the neighborhood roadways, each reported crash can dramatically affect the calculated crash rates.

## TAHOE SAFETY STUDY FINDINGS

The Tahoe Regional Planning Agency recently retained a team led by Kittelson and Associates, Inc. to conduct the *Lake Tahoe Region Safety Strategy* (TRPA, February 2019). This study evaluated location of 2,672 reported crashes over a five year period across the Tahoe Region. The study did not identify any of the Tahoe XC study area roadways or intersections as priority locations for safety improvements.

## PROPOSED DRIVEWAY SPACING

Properly located access points are essential to allow for the safe and orderly movement of traffic in and out of a site. Placer County recognizes this fact and has set forth minimum requirements to assure their proper placement. According to Placer Standard Drawing Plate 113, at least 22 feet of spacing shall be provided between commercial driveways for less than 200 feet of frontage, and 45 feet is required between driveways for greater than or equal to 200 feet of frontage. The distance between driveways is measured from edge of driveway, at the right-of-way line. The proposed driveway spacing at the site access point relative to the adjacent high school driveway on Polaris Road is evaluated. The site access driveway is

proposed to be located at a point on the north side of Polaris Road about 70 feet east of the high school driveway. The proposed driveway location therefore exceeds the requirement.

Note that the existing driveway spacing at the existing XC lodge site well exceeds the minimum requirements. As such, no driveway spacing concerns are identified with the potential community center at the existing site or with the project alternative (Site A).

## SPEED SURVEYS

Speed surveys were conducted on Polaris Road near the high school and on Village Road near the existing XC Lodge during typical busy winter days, capturing both school-related traffic activity and cross-country skier traffic activity. Specifically, using radar counters, speed data was collected at the following two locations in the study area:

- On Polaris Road about 700 feet east of the high school access driveway
- On Village Road about 120 feet west of Country Club Drive

About 2,000 data points were collected at each location. The speed limit along both roads is 25 miles per hour. The speed survey results are presented in Table 18.

| Location  | Speed (mph) |                    |           |                    |         |                    |     |
|---|-------------|--------------------|-----------|--------------------|---------|--------------------|-----|
|   | Eastbound   |                    | Westbound |                    | Total   |                    |     |
|   | Average     | 85 <sup>th</sup> % | Average   | 85 <sup>th</sup> % | Average | 85 <sup>th</sup> % | Max |
| Polaris Road Immediately East of High School        | 27          | 31                 | 26        | 30                 | 26      | 30                 | 42  |
| Village Road Immediately West of Country Club Drive | 18          | 20                 | 18        | 20                 | 18      | 20                 | 33  |

Note: Based on speed surveys conducted during periods with good road conditions (not snowy/icy or raining) from Tuesday March 26 through Wednesday April 3, 2019.  
Source: LSC Transportation Consultants, Inc. 2019 Tahoe XC.xls

### Polaris Road Speeds (700 Feet East of Schools)

The majority of speeds recorded on Polaris Road are above the speed limit. The average speed at a point east of the high school is approximately 26 mph (average of both directions), and the 85<sup>th</sup>-percentile speed (the speed that is only exceeded by 15 percent of the vehicles) is calculated to be approximately 30 mph. The 85<sup>th</sup>-percentile of the distribution of observed speeds is the most frequently used measure of the operating speed associated with a particular roadway location. It is observed that the traffic leaving the school (eastbound) is generally slightly faster than those traveling toward the school. This could be attributed to the upgrade in



the westbound direction approaching the survey point. The maximum recorded speed was 42 mph.

### **Village Road Speeds (120 Feet West of Country Club Drive)**

The speed limit along Village Road is 25 mph. The recorded speeds on Village Road were generally lower than the speed limit, likely due to the curvature along Village Road and the close proximity to Country Club Drive, where most vehicles make a turn. The average observed speed was 18 mph, and the 85<sup>th</sup>-percentile speed (20 mph) is about 5 mph below the speed limit. The maximum recorded speed was 33 mph.

### **DRIVER SIGHT DISTANCE**

Driver sight distance is evaluated at the existing and proposed driveways. According to the Caltrans *Highway Design Manual*, there are two types of sight distance standards that should be met at driveways or intersections: stopping sight distance and corner sight distance.

Corner sight distance requirements are meant to ensure that adequate time is provided for the waiting driver at an unsignalized intersection or driveway to either cross all lanes of through traffic, cross the near lanes and turn left, or turn right, without requiring through traffic to radically alter their speed. Corner sight distance requirements are based upon the need for a driver to discern a gap of up to 7.5 seconds in oncoming traffic to safely choose an adequate gap. The corner sight distance requirements along Country Club Drive and Polaris Road are based on the Caltrans Highway Design Manual as referenced in Placer Standard Drawing Plate 116, which specifies corner sight distances of 275 feet based upon a design speed of 25 miles per hour and 330 feet based upon 30 miles per hour.

Stopping sight distance is the distance an oncoming driver on the major roadway needs to perceive an object in the travel lane (such as a turning vehicle), react to the object, and come to a safe stop. The stopping sight distance requirement for drivers approaching the site along residential neighborhood streets is 150 feet assuming a 25 miles per hour design speed, or 200 feet assuming 30 miles per hour.

### **Driver Sight Distance at Proposed Site (Site D)**

The following corner sight distance values are estimated to be provided at the proposed new driveway location on Polaris Road:

- Proposed driveway (Site D) on Polaris Road, looking east – **250 feet**
- Proposed driveway (Site D) on Polaris Road, looking west – at least 330 feet

Assuming a speed of 30 miles per hour (which is the calculated 85<sup>th</sup>-percentile speed) for traffic approaching along Polaris Road, the minimum corner sight distance value is 330 feet. The

corner sight distance looking west meets this value, although the sight distance to the east is about 80 feet short of the minimum value. The corner sight distance looking east is limited, primarily due to the horizontal curvature and existing embankments along Polaris Road. It may be possible to modify the embankment and vegetation along the north side of Polaris Road to improve the corner sight distance. The corner sight distance standards indicate that *“Where restrictive conditions do not allow compliance with the specified sight distance requirements, the Engineer may approve a reduction of the corner sight distance to no less than the minimum stopping sight distance as outlined in the Caltrans Highway Design Manual.”* The minimum stopping sight distance value based on a speed of 30 miles per hour is 200 feet. The corner sight distance exceeds this value.

The stopping sight distance provided for drivers approaching the proposed driveway on Polaris Road is at least 200 feet from either direction. As this meets the minimum requirement, the stopping sight distance is considered adequate.

### **Driver Sight Distance at Existing Site**

The following corner sight distance values are estimated to be provided at the existing XC lodge driveways on Country Club Drive:

- Existing northern driveway on Country Club Drive, looking north – at least 330 feet
- Existing northern driveway on Country Club Drive, looking south – at least 330 feet
- Existing southern driveway on Country Club Drive, looking north – **250 feet**
- Existing southern driveway on Country Club Drive, looking south – **190 feet**

Assuming a speed of 25 miles per hour along Country Club Drive, the minimum corner sight distance value is 275 feet. The corner sight distance at the northern driveway exceeds this value by at least 55 feet in either direction. However, the corner sight distance at the southern driveway does not meet the minimum value. Looking north from the southern driveway, the corner sight distance falls only 25 feet short of the minimum value. The corner sight distance looking north is limited by existing trees/vegetation. The sight distance improves as the driver on the driveway approaches the edge of the travel lane along Country Club Drive. Removal of several trees and vegetation would improve the corner sight distance looking north to the minimum value.

However, the corner sight distance looking south is about 85 feet short of the minimum value, primarily due to existing trees and vegetation. Removal of trees and vegetation would improve the corner sight distance looking south.

The stopping sight distance provided for drivers approaching the existing XC lodge driveways on Country Club Drive is at least 200 feet from either direction. The minimum stopping sight

distance value based on a speed of 25 miles per hour is 150 feet. As the minimum requirement is exceeded by at least 50 feet, adequate stopping sight distance is provided.

## **BICYCLE AND PEDESTRIAN CONDITIONS**

No sidewalks exist along the study roadway segments. The pavement width on neighborhood roadways ranges from about 32 to 38 feet. Bicycle and pedestrian counts were conducted during the morning and afternoon peak periods of school-related traffic activity on Tuesday, September 11, 2018 at the following three intersection locations along Polaris Road:

- Village Road
- Old Mill Road
- High School driveway

Bicyclists and pedestrians were counted by intersection turning movement. A summary of the bicycle and pedestrian volumes can be found in Table 19. The intersection with the highest peak-hour total bicyclists was Polaris Road/Village Road, with a total of 13 bicyclists during the PM peak hour.

The intersection with the highest peak-hour total pedestrian traffic was Polaris Road/High School Driveway, with a total of 25 pedestrians during the PM peak hour, largely due to a high school running group of 18 people.

In addition, bicycles and pedestrians were counted at the Polaris Road/High School Driveway intersection during the AM and PM peak hours of school-related activity on Wednesday, January 30, 2019. Only 2 pedestrian crossings were recorded during the AM peak hour (which could have been 1 pedestrian crossing two legs of the intersection), and 22 pedestrian crossings were recorded during the PM peak hour. No bicyclists were observed on this cold winter day.

## **IMPACT ON SCHOOL ACCESS CONDITIONS**

The project impact on circulation and vehicular delays at the school access points during student drop-off and pick-up times is evaluated. Traffic and bicyclists/pedestrian turning-movement counts were counted at the Polaris Road/High School Driveway intersection during the AM and PM peak hours of school-related activity on Tuesday, September 11, 2018 and on Wednesday, January 30, 2019. The count data is contained in Appendix A. Based on these counts, the maximum observed volumes on Polaris Road at the proposed XC Lodge driveway location during the AM and PM peak-hours of school-related activity are as follows:

- AM – 322 vehicles (118 eastbound and 204 westbound)  
4 bicyclists  
4 pedestrians

**TABLE 19: Tahoe Cross Country Ski Area Summer Weekday Bike/Ped. Volumes**

| Scenario/Intersection           | Begin Peak Hour | Northbound |   |         |   |       |   | Southbound |   |         |   |       |   | Eastbound |   |         |   |       |   | Westbound |   |         |   |       |   | Total |   |    |
|---------------------------------|-----------------|------------|---|---------|---|-------|---|------------|---|---------|---|-------|---|-----------|---|---------|---|-------|---|-----------|---|---------|---|-------|---|-------|---|----|
|                                 |                 | Left       |   | Through |   | Right |   | Left       |   | Through |   | Right |   | Left      |   | Through |   | Right |   | Left      |   | Through |   | Right |   |       |   |    |
|                                 |                 |            |   |         |   |       |   |            |   |         |   |       |   |           |   |         |   |       |   |           |   |         |   |       |   |       |   |    |
| <b>Existing -Bike AM</b>        |                 |            |   |         |   |       |   |            |   |         |   |       |   |           |   |         |   |       |   |           |   |         |   |       |   |       |   |    |
| Polaris Rd/Village Rd           | 7:00 AM         | 1          | 1 | 0       | 0 | 0     | 0 | 0          | 0 | 0       | 0 | 0     | 0 | 0         | 0 | 0       | 0 | 0     | 0 | 0         | 0 | 0       | 0 | 0     | 0 | 0     | 0 | 2  |
| Polaris Rd/Old Mill Rd          | 7:00 AM         | 0          | 0 | 0       | 0 | 0     | 0 | 0          | 0 | 0       | 0 | 0     | 0 | 0         | 0 | 0       | 0 | 0     | 0 | 0         | 0 | 0       | 1 | 0     | 0 | 0     | 0 | 1  |
| Polaris / HS Entrance           | 7:45 AM         | 0          | 0 | 0       | 0 | 0     | 0 | 0          | 0 | 0       | 0 | 0     | 0 | 0         | 0 | 0       | 0 | 0     | 0 | 0         | 0 | 0       | 4 | 0     | 0 | 0     | 0 | 4  |
| <b>Existing - Pedestrian AM</b> |                 |            |   |         |   |       |   |            |   |         |   |       |   |           |   |         |   |       |   |           |   |         |   |       |   |       |   |    |
| Polaris Rd/Village Rd           | 7:15 AM         | 1          | 2 | 0       | 0 | 0     | 2 | 0          | 0 | 0       | 0 | 0     | 0 | 0         | 0 | 0       | 0 | 0     | 0 | 0         | 0 | 0       | 0 | 0     | 0 | 0     | 0 | 7  |
| Polaris Rd/Old Mill Rd          | 7:15 AM         | 3          | 0 | 0       | 0 | 0     | 0 | 0          | 0 | 0       | 0 | 0     | 0 | 0         | 0 | 0       | 0 | 0     | 0 | 0         | 0 | 0       | 2 | 0     | 0 | 0     | 0 | 5  |
| Polaris / HS Entrance           | 7:45 AM         | 0          | 0 | 0       | 0 | 0     | 0 | 0          | 0 | 0       | 0 | 0     | 0 | 0         | 0 | 0       | 0 | 0     | 0 | 0         | 0 | 0       | 4 | 0     | 0 | 0     | 0 | 4  |
| <b>Existing - Bike PM</b>       |                 |            |   |         |   |       |   |            |   |         |   |       |   |           |   |         |   |       |   |           |   |         |   |       |   |       |   |    |
| Polaris Rd/Village Rd           | 2:30 PM         | 3          | 2 | 0       | 0 | 0     | 0 | 0          | 0 | 0       | 0 | 0     | 0 | 0         | 0 | 0       | 0 | 0     | 0 | 0         | 0 | 2       | 0 | 0     | 0 | 0     | 0 | 13 |
| Polaris Rd/Old Mill Rd          | 3:00 PM         | 0          | 0 | 0       | 0 | 0     | 0 | 0          | 0 | 0       | 0 | 0     | 0 | 0         | 0 | 0       | 0 | 0     | 0 | 0         | 0 | 1       | 0 | 0     | 0 | 0     | 0 | 2  |
| Polaris / HS Entrance           | 2:30 PM         | 0          | 0 | 0       | 0 | 0     | 0 | 0          | 0 | 0       | 0 | 0     | 0 | 0         | 0 | 0       | 0 | 0     | 0 | 0         | 0 | 0       | 0 | 3     | 0 | 0     | 0 | 8  |
| <b>Existing - Pedestrian PM</b> |                 |            |   |         |   |       |   |            |   |         |   |       |   |           |   |         |   |       |   |           |   |         |   |       |   |       |   |    |
| Polaris Rd/Village Rd           | 3:00 PM         | 0          | 0 | 0       | 0 | 0     | 0 | 0          | 0 | 0       | 0 | 0     | 0 | 0         | 0 | 0       | 0 | 0     | 0 | 0         | 0 | 0       | 0 | 0     | 0 | 0     | 0 | 2  |
| Polaris Rd/Old Mill Rd          | 2:45 PM         | 0          | 0 | 0       | 0 | 0     | 0 | 0          | 0 | 0       | 0 | 0     | 0 | 0         | 0 | 0       | 0 | 0     | 0 | 0         | 0 | 0       | 0 | 0     | 0 | 0     | 0 | 20 |
| Polaris / HS Entrance           | 2:45 PM         | 0          | 0 | 0       | 0 | 0     | 0 | 0          | 0 | 0       | 0 | 0     | 0 | 0         | 0 | 0       | 0 | 0     | 0 | 0         | 0 | 0       | 0 | 0     | 0 | 0     | 0 | 25 |

Note: 18 person running group was observed leaving the HS and going through Polaris/Old Mill Rd

Source: LSC Transportation Consultants, Inc.

2018 Tahoe XC.xlsx

- PM – 335 vehicles (210 eastbound and 125 westbound)  
8 bicyclists  
25 pedestrians (including an 18-person running group)

The proposed project (Site D) is estimated to generate approximately 54 one-way vehicle trips (37 entering and 17 exiting) turning to/from the proposed site driveway on Polaris Road during the school AM and PM peak hours. In other words, the project would generate an increase of 54 vehicle trips (17 eastbound and 37 westbound) on Polaris Road during the busiest hours. This equates to less than one additional car per minute, on average. The project would increase the total two-way volume on Polaris Road near the high school by about 17 percent in the AM and PM peak hours of school traffic activity. The majority of the project-generated vehicle trips would be made to/from the east on Polaris Road, and would therefore not impact the school access intersections to the west. As such, the project impact on vehicular delays at the school access points would be minimal. Furthermore, given that adequate spacing is provided between the existing high school access intersection and the proposed new driveway location, the project would not be expected to interfere with turns made to/from the school driveways or vehicular circulation conditions at the school driveways.

Considering the level of traffic generated by the proposed project during school peak periods, the fact that the crash data analysis does not indicate an existing safety deficiency, and that the speed survey indicates the prevailing speed on Polaris Road is within 5 mph of the speed limit, no undue transportation safety-related concerns (including traffic, bicyclist and pedestrian concerns) are expected to result with implementation of the proposed project, so long as the driver sight distance concerns at the proposed driveway location are addressed.

This page intentionally left blank.

The following areas of impacts are evaluated in this section:

- Daily Traffic Volumes
- Intersection Level of Service (LOS)
- Vehicle Miles Traveled (VMT)
- Parking
- Transportation Safety

### **IMPACT ON DAILY ROADWAY VOLUMES**

Placer County considers maximum traffic volume for residential streets of the type in the study area to be 2,000 to 3,000 vehicles per day (ADT). This is specifically defined for streets serving largely residential areas with lots of 1/4 acre or larger, with front-on driveways. In addition to intersection volumes the daily number of vehicles traveling the roadway network was analyzed. Using the 24-hour roadway count volumes along with the intersection turning movements, the existing daily roadway volumes are estimated at the following roadway locations:

- Village Road -Near Tahoe XC
- Old Mill Road- North of SR 28
- Polaris Road – Between Village Road and Old Mill Road
- Polaris Road – Just East of the High School

As only two of the roadway locations listed above were actually counted, the roadway volumes of the non-counted roadway segments were calculated using the ratios of the various intersection turning movements. The resulting existing winter and summer daily traffic volumes are shown in Tables 20 and 21, respectively. Next, the daily volume impacts of the project alternatives are estimated. The resulting changes in daily roadway volumes are shown in the middle columns of the tables, and can be summarized as follows:

- The new lodge on the proposed site would shift traffic away from Village and to Polaris Road. Volumes on the northern portion of Village Road would be reduced by approximately 146 ADT on a winter weekday, 340 ADT on a winter weekend, and 354 ADT on a summer day.
- Volumes on Polaris west of Old Mill Road would be increased by 272 ADT on winter weekdays, 489 ADT on winter weekend days, and 513 ADT on summer days, assuming the new site. This equates to a 14 percent increase on winter weekdays, a 223 percent increase on weekend days, and a 280 percent increase on summer days. Winter

**TABLE 20: Daily Winter 2-Way Roadway Volumes**

| Segment                            | Existing | With Project              |                              | # Impact of Project       |                              | % Impact of Project       |                              |
|------------------------------------|----------|---------------------------|------------------------------|---------------------------|------------------------------|---------------------------|------------------------------|
|                                    |          | Proposed Project (Site D) | Project Alternative (Site A) | Proposed Project (Site D) | Project Alternative (Site A) | Proposed Project (Site D) | Project Alternative (Site A) |
| <b>Weekday</b>                     |          |                           |                              |                           |                              |                           |                              |
| Village Rd - Near XC               | 499      | 353                       | 593                          | -146                      | 94                           | -29%                      | 19%                          |
| Old Mill - North of SR28           | 431      | 536                       | 431                          | 105                       | 0                            | 24%                       | 0%                           |
| Polaris - Village to Old Mill      | 728      | 895                       | 728                          | 167                       | 0                            | 23%                       | 0%                           |
| Polaris - Just East of High School | 1,370    | 1,642                     | 1,370                        | 272                       | 0                            | 20%                       | 0%                           |
| <b>Weekend/Holiday</b>             |          |                           |                              |                           |                              |                           |                              |
| Village Rd - Near XC               | 815      | 475                       | 932                          | -340                      | 117                          | -42%                      | 14%                          |
| Old Mill - North of SR28           | 91       | 279                       | 91                           | 188                       | 0                            | 207%                      | 0%                           |
| Polaris - Village to Old Mill      | 97       | 398                       | 97                           | 301                       | 0                            | 310%                      | 0%                           |
| Polaris - Just East of High School | 183      | 672                       | 183                          | 489                       | 0                            | 267%                      | 0%                           |

Source: LSC Transportation Consultants, Inc.

2019 Tahoe XC.xlsx

**TABLE 21: Daily Summer 2-Way Roadway Volumes**

| Segment                            | Existing | With Project              |                              | # Impact of Project       |                              | % Impact of Project       |                              |
|------------------------------------|----------|---------------------------|------------------------------|---------------------------|------------------------------|---------------------------|------------------------------|
|                                    |          | Proposed Project (Site D) | Project Alternative (Site A) | Proposed Project (Site D) | Project Alternative (Site A) | Proposed Project (Site D) | Project Alternative (Site A) |
| Village Rd - Near XC               | 414      | 60                        | 557                          | -354                      | 143                          | -86%                      | 35%                          |
| Old Mill - North of SR28           | 580      | 862                       | 580                          | 282                       | 0                            | 49%                       | 0%                           |
| Polaris - Village to Old Mill      | 198      | 429                       | 198                          | 231                       | 0                            | 117%                      | 0%                           |
| Polaris - Just East of High School | 183      | 696                       | 183                          | 513                       | 0                            | 280%                      | 0%                           |

Source: LSC Transportation Consultants, Inc.

2018 Tahoe XC.xlsx

weekend traffic volumes (without school traffic) would still be substantially lower than current weekday volumes (with school traffic).

- With the new site, volumes on Old Mill Road would increase by 105 vehicles on winter weekdays, 188 vehicles on weekend days and 282 vehicles on busy summer days. In summer, this increase in traffic could occur on either a weekday or weekend day. In winter, weekend day volumes on Old Mill Road would remain well below existing weekday volumes. Traffic increases on this roadway are a particular concern given the steep grades (up to approximately 18 percent) and curves along this roadway.



- With the project alternative (Site A) at the existing site, the daily traffic volume increase on Village Road would be about 94 ADT on winter weekends, 117 ADT on winter weekdays and 143 ADT on summer days. This equates to an increase of approximately 14% to 19% in winter, and 35% in summer.

Comparing the volumes with the Placer County standard indicates that none of the resulting daily traffic volumes under either site alternative would exceed the Placer County standards for traffic volumes on a residential street. Even though traffic will increase in some areas under either site alternative, none of the resulting daily traffic volumes exceed even the lower of these maximum levels. No significant impact on roadway capacity results from either alternative.

### **IMPACTS ON INTERSECTION LEVEL OF SERVICE**

As all study intersections would operate at a good LOS A or LOS B under all study scenarios with implementation of either project alternative, no intersection LOS concerns are identified.

### **VMT Impact**

Impact on Vehicle Miles Traveled (VMT) within the Tahoe Region can best be established based upon project trip generation and distribution to the various portions of the Tahoe Region (including external access points). The change in VMT resulting from implementation of the project is estimated based upon the net increase in regional vehicle trips generated by the project factored by the average trip distance to each area. The VMT calculations are presented in Table 22. As shown in the right-hand columns of the table, the proposed project would reduce VMT at the existing site and increase VMT at the new site (Site D). Overall, the proposed project would result in a net increase of approximately 1,140 VMT over the course of a busy summer day.

When compared to the existing summer daily VMT in the Tahoe Basin of 1,937,070, the proposed project is estimated to result in a negligible increase in region-wide VMT from existing conditions. Implementation of the proposed project would result in VMT levels that are below the TRPA's threshold value of 2,030,938.

### **VMT Impact of Project Alternative (Site A)**

As shown in the far right column of Table 22, under the project alternative (Site A) with the new lodge being built at the existing site, the net increase in VMT within the Basin would be 973. When compared to the existing summer daily VMT in the Tahoe Basin of 1,937,070, this alternative is estimated to result in a negligible increase in region-wide VMT from existing conditions.

| <b>TABLE 22: Tahoe XC Vehicle Miles Traveled - Summer</b>                  |                            |                 |   |               |                    |                              |
|--|----------------------------|-----------------|---|---------------|--------------------|------------------------------|
| <b>Origin/Destination</b>  | <u>Trip Distribution</u>   |                 | <u>Daily 1-Way Vehicle Trips</u>              |               |                    |                              |
|  | Existing Site              | Proposed Site D | Proposed Project (Site D)                     |               |                    | Project Alternative (Site A) |
|  |                            |                 | Net Impact at Existing Site                   | Proposed Site | Project Net Impact | Net Impact                   |
| Homewood/Tahoma  | 17%                        | 17%             | -60   | 87            | 27                 | 24                           |
| Sunnyside  | 11%                        | 11%             | -39   | 56            | 17                 | 16                           |
| Eastern Tahoe City   | 11%                        | 11%             | -39   | 56            | 17                 | 16                           |
| Dollar Point/Lake Forest   | 8%                         | 8%              | -28   | 41            | 13                 | 11                           |
| Carnelian Bay  | 11%                        | 11%             | -39   | 56            | 17                 | 16                           |
| Tahoe Vista  | 18%                        | 18%             | -64   | 94            | 30                 | 26                           |
| Kings Beach/Crystal Bay  | 7%                         | 7%              | -25   | 36            | 11                 | 10                           |
| Incline Village/East Shore   | 9%                         | 9%              | -32   | 46            | 14                 | 13                           |
| Squaw/Alpine   | 8%                         | 8%              | -28   | 41            | 13                 | 11                           |
| <b>Total</b>   | <b>100%</b>                | <b>100%</b>     | <b>-354</b>                                   | <b>513</b>    | <b>159</b>         | <b>143</b>                   |
|  | <u>Trip Length (Miles)</u> |                 | <u>Impact on Daily Vehicle-Miles Traveled</u> |               |                    |                              |
|  | Existing Site              | Proposed Site D | Existing Site                                 | Proposed Site | Project Net Impact | Project Alternative (Site A) |
|  |                            |                 |   |               |                    | Net Impact                   |
| Homewood/Tahoma  | 11.7                       | 11.5            | -702  | 1001          | 299                | 281                          |
| Sunnyside  | 5.3                        | 5.5             | -207  | 308           | 101                | 85                           |
| Eastern Tahoe City   | 2.9                        | 2.7             | -113  | 151           | 38                 | 46                           |
| Dollar Point/Lake Forest   | 1.3                        | 1.1             | -36   | 45            | 9                  | 14                           |
| Carnelian Bay  | 3.9                        | 4.3             | -152  | 241           | 89                 | 62                           |
| Tahoe Vista  | 5.7                        | 6.1             | -365  | 573           | 209                | 148                          |
| Kings Beach/Crystal Bay  | 8.2                        | 8.6             | -205  | 310           | 105                | 82                           |
| Incline Village/East Shore   | 14.4                       | 14.8            | -461  | 681           | 220                | 187                          |
| Squaw/Alpine <sup>1</sup>  | 6.1                        | 5.9             | -171  | 242           | 71                 | 67                           |
| <b>Total</b>   |                            |                 | <b>-2,412</b>                                 | <b>3,551</b>  | <b>1,140</b>       | <b>973</b>                   |
| <b>PROJECT NET IMPACT ON VMT</b>   |                            |                 |   |               | <b>1,140</b>       | <b>973</b>                   |
| Note 1: Distances shown represent the distance traveled in the Tahoe Basin |                            |                 |   |               |                    |                              |
| Source: LSC Transportation Consultants, Inc.                               |                            |                 |   |               | 2018 Tahoe XC.xlsx |                              |

## Parking Impacts

### Winter Parking Impacts

The proposed project parking plans would accommodate the peak parking demand on 94% of the days during the winter season (with only 7 days per year of parking off-site). The maximum number of cars that would need to park off-site is estimated to be 39. Up to 79 spaces are currently available at the high school lots on school days, potentially available for use by XC skiers. Note that this does not reflect special events at the school, such as a basketball game. No high school parking spaces would need to be used by Tahoe XC on the busiest day that is also a school day. Barring a special event at the high school or ski area, adequate overall

parking supply would be provided on school days without the potential for “spill-over” parking occurring on nearby residential streets.

On non-school days, the available high school spaces would provide more than adequate parking for Tahoe XC, barring a special event (like a Saturday basketball tournament). If the proposed new site is selected and limited onsite parking provided, there would need to be careful coordination between special events occurring at the high school and the ski area, and to ensure that high school special events do not coincide with expected days of peak ski area parking demand. The XC Project would be responsible for obtaining the schedule of high school events and planning XC activities accordingly.

#### *Parking Balance at Community Center*

Implementation of the potential community center at the existing XC site would result in a surplus of approximately 30 parking spaces at the existing site in the winter. As such, no parking concerns are identified at the community center.

#### *Parking Balance Under Project Alternative (Site A)*

If the new lodge is constructed at the existing site under the project alternative (Site A), the parking supply would accommodate the peak parking demand on 94% of the winter days (with only 7 winter days per season of parking off-site). The maximum number of cars that would need to park off-site is estimated to be 39. It is assumed that the existing parking arrangement where XC-related vehicles park in the on-street spaces on these days would continue.

#### Summer Parking Impacts

No parking concerns are identified on typical busy summer days with the project, given that the proposed parking supply would yield an excess of 38 spaces.

On a summer day with a large event at the high school, there may be a parking shortfall between the high school lots and XC lot of 13 spaces during peak periods. If the proposed new site is selected and limited onsite parking provided, there would need to be careful coordination between special events occurring at the high school and the XC lodge, to ensure that high school special events do not coincide with expected days of peak XC lodge parking demand. The XC Project would be responsible for obtaining the schedule of high school events and planning XC activities accordingly.

#### *Parking Balance at Community Center*

With the potential community center, there would be an excess of approximately 38 spaces at the existing site.

### *Parking Balance Under Project Alternative (Site A)*

If the new lodge is constructed at the existing site under the project alternative (Site A), there would be an excess of at least 38 spaces on a typical busy summer day (with the peak period occurring in the late afternoon, when cars arrive for the gathering event).

On a summer day with a large event at the high school, there would be a parking surplus of 55 spaces on site during the peak mid-day period.

## **TRANSPORTATION SAFETY IMPACTS**

No numerical adopted standards exist to define significant impact on transportation safety in most situations. A common standard is to consider a significant impact for a project that (1) substantially increases traffic hazards to bicyclists and pedestrians, or (2) substantially impacts existing bicycle/pedestrian facilities, or (3) substantially increases hazards due to a design feature or incompatible use. Based on best practices, this analysis evaluates existing roadway and intersection configuration, use patterns including traffic and bicycle and pedestrian use, vehicle speed, and existing crash data. It further identifies the increase in traffic expected by the proposed project and considers whether future projected conditions present increased safety concerns and to what degree.

### **Site D Project Impact on Traffic, Bicycle, and Pedestrian Safety Conditions**

The following factors should be considered in assessing this site:

- The proposed driveway spacing is adequate.
- The prevailing speed on Polaris Road is within 5 mph of the speed limit, and speeds on Village Road near the existing XC Lodge are generally lower than the speed limit.
- Adequate stopping sight distance is provided at the proposed site driveway locations. However, the corner sight distance looking east from the proposed driveway (Site D) on Polaris Road is about 80 feet short of the minimum value. The corner sight distance at this location is primarily limited by the horizontal curvature and existing embankments along Polaris Road. It may be possible to modify the embankment and vegetation along the north side of Polaris Road to improve the corner sight distance. The sight distance standards indicate that *“Where restrictive conditions do not allow compliance with the specified sight distance requirements, the Engineer may approve a reduction of the corner sight distance to no less than the minimum stopping sight distance as outlined in the Caltrans Highway Design Manual.”* The corner sight distance exceeds the minimum stopping sight distance value at this location.
- Conversely, the proposed project would reduce volumes on Village Road north of Polaris and on Country Club Drive. Reducing the traffic volumes at the existing XC southern driveway intersection would be beneficial to the existing corner sight distance issue.

- Within the neighborhood residential streets, there is no defined pattern of crashes. The intersection within the neighborhood with the greatest number of crashes over the ten-year period (Old Mill Road and Polaris Road) had a total of four crashes of three different types, and two that occurred during snow conditions. The neighborhood roadway segment with the greatest number of crashes (Old Mill Road) had a total of five reported crashes over the ten years, of three different types.
- The residential roadways that would have an increase in traffic volumes from the project on Site D (Polaris Road east of the site access and Old Mill Road) had a total of 16 reported crashes over a ten year period, or 1.6 per year. Over the course of a year, the project on Site D would increase total traffic on these roadways by approximately 46 percent. This indicates that this option would increase the annual forecast number of crashes along these residential streets by 0.74, or less than one per year.
- The increase in traffic exists along roadways with adequate width, appropriate prevailing speeds and sufficient sight distance for drivers traveling along the roadways to allow traffic, bicycles and pedestrians to share the roadway with an adequate level of safety.

#### Impact on School Access Conditions

The proposed project would generate an increase of 54 vehicle trips (17 eastbound and 37 westbound) on Polaris Road during the busiest hours. This equates to less than one additional car per minute, on average. The project would increase the total two-way volume on Polaris Road near the high school by about 17 percent in the AM and PM peak hours of school traffic activity. The majority of the project-generated vehicle trips would be made to/from the east on Polaris Road, and would therefore not impact the school access intersections to the west. As such, the project impact on vehicular delays at the school access points would be minimal. Furthermore, given that adequate spacing is provided between the existing high school access intersection and the proposed new driveway location, the project would not be expected to interfere with turns made to/from the school driveways or vehicular circulation conditions at the school driveways.

#### Conclusion

Considering the analysis presented above in comparison with the standard of significance, the proposed project on Site D would not result in a significant transportation safety impact, so long as the final driveway intersection design provides adequate driver sight distance.

#### **Project Alternative (Site A) Impact on Safety Conditions**

Implementation of the project alternative (Site A) would increase traffic volumes on Village Road and Country Club Drive, although it would not be expected to affect traffic levels on the other neighborhood roadways. The project would also reduce pedestrian activity in this area by

eliminating the overflow parking along these streets. Lower traffic and lower pedestrian volumes improve safety conditions in this location. The driveway spacing is adequate. As discussed above, there is a corner sight distance deficiency at the southern driveway at the existing XC lodge site. This would be exacerbated by the additional project traffic. If this deficiency is addressed through vegetation removal, no significant transportation safety impact would result from this option.

## MITIGATION SUMMARY

- If the proposed new site is selected and the proposed 100 on-site parking spaces provided at the XC site, there would need to be careful coordination between special events occurring at the high school and the XC lodge in order to ensure that high school special events do not coincide with expected days of peak XC lodge parking demand. The XC management should be responsible for obtaining the schedule of high school events and planning XC activities accordingly.
- The driver sight distance concern at the proposed driveway (Site D) should be addressed. It may be possible to modify the embankment and vegetation along the north side of Polaris Road to improve the corner sight distance looking east from the proposed driveway. Additionally, the County Engineer may approve a reduction of the corner sight distance requirement, as the corner sight distance exceeds the minimum stopping sight distance value at this location.
- Removal of trees and vegetation along the west side of Country Club Drive north and south of the existing XC lodge southern driveway would improve the corner sight distance at this intersection.

This page left intentionally blank.

Appendix A- Traffic Count Data

---



WINTER COUNTS

Village Dr/ Polaris Road

| Date      | From    | to      | Northbound |                       |       | Southbound |                       |       | Eastbound |                       |       | Westbound |                       |       | Total | Hourly |
|-----------|---------|---------|------------|-----------------------|-------|------------|-----------------------|-------|-----------|-----------------------|-------|-----------|-----------------------|-------|-------|--------|
|           |         |         | Left       | Through<br>Village Rd | Right | Left       | Through<br>Village Rd | Right | Left      | Through<br>Polaris Rd | Right | Left      | Through<br>Polaris Rd | Right |       |        |
| 1/19/2016 | 1:15 PM | 1:30 PM | 4          | 9                     | 1     | 0          | 9                     | 0     | 0         | 0                     | 13    | 0         | 0                     | 0     | 36    | 94     |
| Tuesday   | 1:30 PM | 1:45 PM | 3          | 2                     | 0     | 0          | 14                    | 0     | 0         | 0                     | 3     | 0         | 0                     | 0     | 22    | 124    |
|           | 1:45 PM | 2:00 PM | 8          | 3                     | 0     | 0          | 4                     | 0     | 1         | 0                     | 2     | 0         | 0                     | 0     | 18    | 135    |
|           | 2:00 PM | 2:15 PM | 10         | 1                     | 0     | 0          | 5                     | 1     | 0         | 0                     | 1     | 0         | 0                     | 0     | 18    | 185    |
|           | 2:15 PM | 2:30 PM | 16         | 4                     | 0     | 0          | 3                     | 0     | 2         | 0                     | 41    | 0         | 0                     | 0     | 66    | 217    |
|           | 2:30 PM | 2:45 PM | 12         | 6                     | 0     | 0          | 5                     | 0     | 0         | 0                     | 10    | 0         | 0                     | 0     | 33    |        |
|           | 2:45 PM | 3:00 PM | 16         | 19                    | 0     | 0          | 6                     | 2     | 0         | 0                     | 25    | 0         | 0                     | 0     | 68    |        |
|           | 3:00 PM | 3:15 PM | 9          | 8                     | 0     | 0          | 9                     | 0     | 2         | 0                     | 22    | 0         | 0                     | 0     | 50    |        |

# Polaris Road / Old Mill

|           |         |         | Northbound |         |       | Southbound |         |       | Eastbound |         |       | Westbound |         |       |     |        |
|-----------|---------|---------|------------|---------|-------|------------|---------|-------|-----------|---------|-------|-----------|---------|-------|-----|--------|
|           |         |         | Left       | Through | Right | Left       | Through | Right | Left      | Through | Right | Left      | Through | Right |     | Hourly |
| 1/14/2016 | 1:30 PM | 1:45 PM | 3          | 0       | 1     | 0          | 0       | 0     | 0         | 3       | 5     | 0         | 2       | 0     | 14  | 108    |
| Thursday  | 1:45 PM | 2:00 PM | 15         | 0       | 0     | 0          | 0       | 0     | 0         | 2       | 4     | 0         | 8       | 0     | 29  | 196    |
|           | 2:00 PM | 2:15 PM | 5          | 0       | 1     | 0          | 0       | 0     | 0         | 7       | 2     | 1         | 7       | 0     | 23  | 211    |
|           | 2:15 PM | 2:30 PM | 21         | 0       | 1     | 0          | 0       | 0     | 0         | 4       | 3     | 0         | 13      | 0     | 42  | 274    |
|           | 2:30 PM | 2:45 PM | 15         | 0       | 0     | 0          | 0       | 0     | 0         | 44      | 27    | 0         | 16      | 0     | 102 | 311    |
|           | 2:45 PM | 3:00 PM | 12         | 0       | 0     | 0          | 0       | 0     | 0         | 6       | 9     | 1         | 16      | 0     | 44  |        |
|           | 3:00 PM | 3:15 PM | 11         | 0       | 2     | 0          | 0       | 0     | 0         | 32      | 21    | 1         | 19      | 0     | 86  |        |
|           | 3:15 PM | 3:30 PM | 6          | 0       | 2     | 0          | 0       | 0     | 0         | 37      | 21    | 1         | 12      | 0     | 79  |        |

# Old Mill / SR 28

|                                      |         |         | Northbound |         |       | Southbound<br>Old Mill Rd |         |       | Eastbound<br>SR 28 |         |       | Westbound<br>SR 28 |         |       | Hourly |      |
|--------------------------------------|---------|---------|------------|---------|-------|---------------------------|---------|-------|--------------------|---------|-------|--------------------|---------|-------|--------|------|
|                                      |         |         | Left       | Through | Right | Left                      | Through | Right | Left               | Through | Right | Left               | Through | Right |        |      |
| 1/13/2016<br>Wednesday               | 1:30 PM | 1:45 PM | 0          | 0       | 0     | 0                         | 0       | 7     | 8                  | 58      | 0     | 0                  | 46      | 1     | 120    | 546  |
|                                      | 1:45 PM | 2:00 PM | 0          | 0       | 0     | 1                         | 0       | 2     | 2                  | 57      | 0     | 0                  | 62      | 1     | 125    | 598  |
|                                      | 2:00 PM | 2:15 PM | 0          | 0       | 0     | 1                         | 0       | 2     | 3                  | 72      | 0     | 0                  | 69      | 0     | 147    | 626  |
|                                      | 2:15 PM | 2:30 PM | 0          | 0       | 0     | 1                         | 0       | 4     | 12                 | 85      | 0     | 0                  | 51      | 1     | 154    | 679  |
|                                      | 2:30 PM | 2:45 PM | 0          | 0       | 0     | 0                         | 0       | 13    | 3                  | 72      | 0     | 0                  | 81      | 3     | 172    | 705  |
|                                      | 2:45 PM | 3:00 PM | 0          | 0       | 0     | 1                         | 0       | 3     | 10                 | 59      | 0     | 0                  | 78      | 2     | 153    |      |
|                                      | 3:00 PM | 3:15 PM | 0          | 0       | 0     | 0                         | 0       | 9     | 19                 | 102     | 0     | 0                  | 68      | 2     | 200    |      |
| 3:15 PM                              | 3:30 PM | 0       | 0          | 0       | 1     | 0                         | 19      | 8     | 79                 | 0       | 0     | 73                 | 0       | 180   |        |      |
| 12/31/2015<br>Thursday<br>Day before | 2:00 PM | 2:15 PM | 0          | 0       | 0     | 0                         | 0       | 9     | 6                  | 133     | 0     | 0                  | 112     | 1     | 261    | 1168 |
|                                      | 2:15 PM | 2:30 PM | 0          | 0       | 0     | 1                         | 0       | 9     | 2                  | 144     | 0     | 0                  | 123     | 0     | 279    | 1238 |
|                                      | 2:30 PM | 2:45 PM | 0          | 0       | 0     | 2                         | 0       | 5     | 8                  | 177     | 0     | 0                  | 128     | 1     | 321    | 1297 |
|                                      | 2:45 PM | 3:00 PM | 0          | 0       | 0     | 1                         | 0       | 3     | 7                  | 195     | 0     | 0                  | 101     | 0     | 307    | 1258 |
|                                      | 3:00 PM | 3:15 PM | 0          | 0       | 0     | 0                         | 0       | 8     | 3                  | 191     | 0     | 0                  | 128     | 1     | 331    | 1256 |
|                                      | 3:15 PM | 3:30 PM | 0          | 0       | 0     | 1                         | 0       | 1     | 7                  | 208     | 0     | 0                  | 120     | 1     | 338    | 1263 |
|                                      | 3:30 PM | 3:45 PM | 0          | 0       | 0     | 1                         | 0       | 1     | 5                  | 175     | 0     | 0                  | 98      | 2     | 282    | 1260 |
|                                      | 3:45 PM | 4:00 PM | 0          | 0       | 0     | 0                         | 0       | 2     | 7                  | 206     | 0     | 0                  | 90      | 0     | 305    | 1293 |
|                                      | 4:00 PM | 4:15 PM | 0          | 0       | 0     | 0                         | 0       | 3     | 4                  | 228     | 0     | 0                  | 102     | 1     | 338    | 1298 |
|                                      | 4:15 PM | 4:30 PM | 0          | 0       | 0     | 1                         | 0       | 3     | 10                 | 240     | 0     | 0                  | 80      | 1     | 335    |      |
| 4:30 PM                              | 4:45 PM | 0       | 0          | 0       | 1     | 0                         | 2       | 8     | 197                | 0       | 0     | 107                | 0       | 315   |        |      |
| 4:45 PM                              | 5:00 PM | 0       | 0          | 0       | 2     | 0                         | 1       | 8     | 196                | 0       | 0     | 103                | 0       | 310   |        |      |

# Polaris / High School Driveway

1/30/2019

| Time    |         | Northbound |      |       |      | Southbound |      |       |      | Eastbound |      |       |      | Westbound |      |       |      | Total | 1hr total |
|---------|---------|------------|------|-------|------|------------|------|-------|------|-----------|------|-------|------|-----------|------|-------|------|-------|-----------|
| Start   | End     | Left       | Thru | Right | Peds | Left       | Thru | Right | Peds | Left      | Thru | Right | Peds | Left      | Thru | Right | Peds |       |           |
| 7:00 AM | 7:15 AM | 0          | 0    | 0     | 0    | 5          | 0    | 0     | 0    | 0         | 43   | 0     | 0    | 0         | 8    | 81    | 0    | 137   |           |
| 7:15 AM | 7:30 AM | 0          | 0    | 0     | 0    | 4          | 0    | 0     | 0    | 0         | 33   | 0     | 0    | 0         | 12   | 42    | 0    | 91    |           |
| 7:45 AM | 8:00 AM | 0          | 0    | 0     | 0    | 1          | 0    | 0     | 0    | 0         | 2    | 0     | 0    | 0         | 4    | 11    | 0    | 18    |           |
| 8:00 AM | 8:15 AM | 0          | 0    | 0     | 0    | 0          | 0    | 0     | 1    | 1         | 11   | 0     | 0    | 0         | 14   | 37    | 1    | 63    | 309       |
| 8:15 AM | 8:30 AM | 0          | 0    | 0     | 0    | 5          | 0    | 1     | 0    | 1         | 29   | 0     | 0    | 0         | 35   | 30    | 0    | 101   | 273       |
| 8:30 AM | 8:45 AM | 0          | 0    | 0     | 0    | 3          | 0    | 0     | 0    | 0         | 67   | 0     | 0    | 0         | 57   | 16    | 0    | 143   | 325       |

| Time  |       | Northbound |      |       |      | Southbound |      |       |      | Eastbound |      |       |      | Westbound |      |       |      | Total | 1hr total |
|-------|-------|------------|------|-------|------|------------|------|-------|------|-----------|------|-------|------|-----------|------|-------|------|-------|-----------|
| Start | End   | Left       | Thru | Right | Peds | Left       | Thru | Right | Peds | Left      | Thru | Right | Peds | Left      | Thru | Right | Peds |       |           |
| 14:00 | 14:15 | 0          | 0    | 0     | 0    | 5          | 0    | 0     | 0    | 0         | 3    | 0     | 0    | 0         | 2    | 6     | 0    | 16    |           |
| 14:15 | 14:30 | 0          | 0    | 0     | 0    | 4          | 0    | 0     | 0    | 1         | 6    | 0     | 0    | 0         | 3    | 25    | 0    | 39    |           |
| 14:30 | 14:45 | 0          | 0    | 0     | 5    | 64         | 0    | 0     | 0    | 1         | 33   | 0     | 1    | 0         | 3    | 14    | 0    | 115   |           |
| 14:45 | 15:00 | 0          | 0    | 0     | 0    | 10         | 0    | 0     | 0    | 4         | 7    | 0     | 3    | 0         | 8    | 7     | 0    | 36    | 206       |
| 15:00 | 15:15 | 0          | 0    | 0     | 0    | 8          | 0    | 0     | 0    | 0         | 8    | 0     | 0    | 0         | 47   | 20    | 0    | 83    | 273       |
| 15:15 | 15:30 | 0          | 0    | 0     | 0    | 13         | 0    | 0     | 13   | 2         | 67   | 0     | 0    | 0         | 9    | 17    | 0    | 108   | 342       |

# Fabian Way / SR 28

|            |         |         | Northbound |         |       | Southbound |         |       | Eastbound |         |       | Westbound |         |       | Hourly |      |
|------------|---------|---------|------------|---------|-------|------------|---------|-------|-----------|---------|-------|-----------|---------|-------|--------|------|
|            |         |         | Left       | Through | Right | Left       | Through | Right | Left      | Through | Right | Left      | Through | Right |        |      |
| 1/12/2016  | 1:30 PM | 1:45 PM | 0          | 0       | 0     | 8          | 0       | 7     | 3         | 87      | 0     | 0         | 68      | 7     | 180    | 743  |
| Tuesday    | 1:45 PM | 2:00 PM | 0          | 0       | 1     | 5          | 0       | 7     | 8         | 65      | 1     | 0         | 69      | 7     | 163    | 774  |
|            | 2:00 PM | 2:15 PM | 0          | 0       | 0     | 8          | 0       | 5     | 8         | 93      | 0     | 0         | 55      | 11    | 180    | 833  |
|            | 2:15 PM | 2:30 PM | 0          | 0       | 0     | 11         | 0       | 16    | 10        | 95      | 0     | 1         | 74      | 13    | 220    | 847  |
|            | 2:30 PM | 2:45 PM | 0          | 0       | 0     | 35         | 0       | 12    | 13        | 85      | 0     | 0         | 53      | 13    | 211    | 856  |
|            | 2:45 PM | 3:00 PM | 0          | 0       | 0     | 17         | 0       | 8     | 15        | 95      | 0     | 0         | 69      | 18    | 222    |      |
|            | 3:00 PM | 3:15 PM | 0          | 0       | 0     | 7          | 0       | 7     | 12        | 78      | 0     | 0         | 70      | 20    | 194    |      |
|            | 3:15 PM | 3:30 PM | 0          | 0       | 0     | 27         | 0       | 11    | 11        | 102     | 0     | 0         | 63      | 15    | 229    |      |
| 12/31/2015 | 2:00 PM | 2:15 PM | 0          | 0       | 0     | 12         | 0       | 12    | 8         | 116     | 0     | 0         | 98      | 6     | 252    | 1147 |
| Thursday   | 2:15 PM | 2:30 PM | 0          | 0       | 0     | 8          | 0       | 11    | 10        | 128     | 0     | 0         | 110     | 16    | 283    | 1237 |
| Day before | 2:30 PM | 2:45 PM | 0          | 0       | 0     | 14         | 0       | 9     | 8         | 144     | 0     | 0         | 104     | 13    | 292    | 1268 |
|            | 2:45 PM | 3:00 PM | 0          | 0       | 0     | 19         | 0       | 10    | 9         | 184     | 0     | 0         | 90      | 8     | 320    | 1260 |
|            | 3:00 PM | 3:15 PM | 0          | 0       | 0     | 10         | 0       | 13    | 10        | 179     | 0     | 0         | 115     | 15    | 342    | 1235 |
|            | 3:15 PM | 3:30 PM | 0          | 0       | 0     | 11         | 0       | 10    | 9         | 178     | 0     | 0         | 97      | 9     | 314    | 1251 |
|            | 3:30 PM | 3:45 PM | 0          | 0       | 0     | 11         | 0       | 7     | 10        | 156     | 0     | 0         | 94      | 6     | 284    | 1276 |
|            | 3:45 PM | 4:00 PM | 0          | 0       | 0     | 16         | 0       | 9     | 5         | 179     | 0     | 0         | 79      | 7     | 295    | 1292 |
|            | 4:00 PM | 4:15 PM | 0          | 0       | 0     | 10         | 0       | 16    | 11        | 210     | 0     | 0         | 106     | 5     | 358    | 1304 |
|            | 4:15 PM | 4:30 PM | 0          | 0       | 0     | 12         | 0       | 6     | 7         | 228     | 0     | 0         | 82      | 4     | 339    |      |
|            | 4:30 PM | 4:45 PM | 0          | 0       | 0     | 10         | 0       | 12    | 4         | 181     | 0     | 0         | 87      | 6     | 300    |      |
|            | 4:45 PM | 5:00 PM | 0          | 0       | 0     | 11         | 0       | 11    | 9         | 176     | 0     | 0         | 91      | 9     | 307    |      |



# Village Dr/ Cedarwood Lane

3/26/2018

| Time    |         | Northbound |      |       |     | Southbound |      |       |     | Eastbound |      |       |     | Westbound |      |       |     |
|---------|---------|------------|------|-------|-----|------------|------|-------|-----|-----------|------|-------|-----|-----------|------|-------|-----|
| Start   | End     | Left       | Thru | Right | Ped | Left       | Thru | Right | PED | Left      | Thru | Right | PED | Left      | Thru | Right | PED |
| 3:00 PM | 3:15 PM | 6          | 22   | 0     | 0   | 0          | 7    | 0     | 0   | 0         | 0    | 0     | 1   | 0         | 0    | 0     | 1   |
| 3:15 PM | 3:30 PM | 1          | 19   | 0     | 0   | 0          | 11   | 2     | 0   | 2         | 0    | 1     | 1   | 0         | 0    | 0     | 0   |

# SR28/Fabian Way/Lakewood Lane

Date: 8/10/18

|         |         | Lakewood Lane<br>Northbound |      |       |      | Fabian Way<br>Southbound |      |       |      | SR28<br>Eastbound |      |       |      | SR28<br>Westbound |      |       | Total | 1hr total |       |
|---------|---------|-----------------------------|------|-------|------|--------------------------|------|-------|------|-------------------|------|-------|------|-------------------|------|-------|-------|-----------|-------|
|         |         | Left                        | Thru | Right | Peds | Left                     | Thru | Right | Peds | Left              | Thru | Right | Peds | Left              | Thru | Right | Peds  |           |       |
| 4:00 PM | 4:15 PM | 5                           | 0    | 3     | 0    | 9                        | 0    | 0     | 0    | 8                 | 185  | 13    | 0    | 1                 | 110  | 9     | 0     | 343       | 1,264 |
| 4:15 PM | 4:30 PM | 2                           | 0    | 4     | 0    | 6                        | 0    | 7     | 1    | 5                 | 151  | 6     | 0    | 1                 | 123  | 5     | 0     | 310       | 1,240 |
| 4:30 PM | 4:45 PM | 1                           | 1    | 2     | 0    | 8                        | 2    | 11    | 0    | 6                 | 158  | 3     | 0    | 2                 | 105  | 7     | 0     | 306       | 1,220 |
| 4:45 PM | 5:00 PM | 1                           | 0    | 5     | 4    | 5                        | 1    | 7     | 0    | 11                | 153  | 7     | 0    | 0                 | 111  | 4     | 0     | 305       | 1,173 |
| 5:00 PM | 5:15 PM | 5                           | 0    | 4     | 2    | 5                        | 0    | 6     | 1    | 7                 | 171  | 4     | 0    | 2                 | 110  | 5     | 0     | 319       | 1,134 |
| 5:15 PM | 5:30 PM | 3                           | 1    | 2     | 2    | 4                        | 0    | 6     | 0    | 5                 | 161  | 6     | 0    | 0                 | 94   | 8     | 0     | 290       |       |
| 5:30 PM | 5:45 PM | 4                           | 0    | 1     | 1    | 7                        | 1    | 3     | 0    | 4                 | 130  | 3     | 0    | 3                 | 99   | 4     | 0     | 259       |       |
| 5:45 PM | 6:00 PM | 2                           | 0    | 2     | 3    | 2                        | 0    | 7     | 0    | 8                 | 129  | 7     | 0    | 2                 | 99   | 8     | 0     | 266       |       |



## SR28/Old Mill Rd/Lake Forest Rd

Date: 8/10/18

|         |         | Lake Forest Rd<br>Northbound |      |       |      | Old Mill Rd<br>Southbound |      |       |      | SR28<br>Eastbound |      |       |      | SR28<br>Westbound |      |       |      | Total | 1hr total |
|---------|---------|------------------------------|------|-------|------|---------------------------|------|-------|------|-------------------|------|-------|------|-------------------|------|-------|------|-------|-----------|
|         |         | Left                         | Thru | Right | Peds | Left                      | Thru | Right | Peds | Left              | Thru | Right | Peds | Left              | Thru | Right | Peds |       |           |
| 4:00 PM | 4:15 PM | 9                            | 0    | 15    | 0    | 0                         | 0    | 5     | 0    | 12                | 184  | 9     | 0    | 19                | 96   | 2     | 0    | 351   | 1,290     |
| 4:15 PM | 4:30 PM | 8                            | 2    | 14    | 0    | 1                         | 0    | 11    | 0    | 8                 | 144  | 8     | 1    | 14                | 113  | 0     | 0    | 323   | 1,257     |
| 4:30 PM | 4:45 PM | 5                            | 3    | 21    | 3    | 0                         | 1    | 5     | 0    | 6                 | 148  | 9     | 0    | 15                | 94   | 2     | 0    | 309   | 1,245     |
| 4:45 PM | 5:00 PM | 6                            | 2    | 14    | 1    | 1                         | 0    | 4     | 0    | 11                | 146  | 7     | 2    | 10                | 106  | 0     | 0    | 307   | 1,192     |
| 5:00 PM | 5:15 PM | 11                           | 0    | 19    | 2    | 1                         | 0    | 6     | 0    | 6                 | 148  | 11    | 2    | 13                | 103  | 0     | 0    | 318   | 1,174     |
| 5:15 PM | 5:30 PM | 8                            | 2    | 13    | 9    | 1                         | 1    | 3     | 0    | 10                | 155  | 17    | 1    | 15                | 86   | 0     | 0    | 311   |           |
| 5:30 PM | 5:45 PM | 9                            | 4    | 10    | 0    | 1                         | 1    | 4     | 0    | 4                 | 125  | 4     | 0    | 13                | 81   | 0     | 0    | 256   |           |
| 5:45 PM | 6:00 PM | 10                           | 6    | 17    | 3    | 2                         | 0    | 3     | 0    | 12                | 119  | 10    | 0    | 12                | 98   | 0     | 0    | 289   |           |

# Old Mill Rd/Polaris Rd

Date: 8/10/18

|         |         | Old Mill Rd Northbound |      |       |      | Old Mill Rd Southbound |      |       |      | Polaris Rd Eastbound |      |       |      | Polaris Rd Westbound |      |       | Total | 1hr total |    |
|---------|---------|------------------------|------|-------|------|------------------------|------|-------|------|----------------------|------|-------|------|----------------------|------|-------|-------|-----------|----|
|         |         | Left                   | Thru | Right | Peds | Left                   | Thru | Right | Peds | Left                 | Thru | Right | Peds | Left                 | Thru | Right | Peds  |           |    |
| 4:00 PM | 4:15 PM | 4                      | 0    | 4     | 0    | 0                      | 0    | 0     | 0    | 0                    | 3    | 2     | 0    | 0                    | 2    | 0     | 0     | 15        | 56 |
| 4:15 PM | 4:30 PM | 0                      | 0    | 1     | 0    | 0                      | 0    | 0     | 0    | 0                    | 2    | 7     | 0    | 1                    | 2    | 0     | 0     | 13        | 51 |
| 4:30 PM | 4:45 PM | 1                      | 0    | 1     | 0    | 0                      | 0    | 0     | 0    | 0                    | 3    | 2     | 0    | 1                    | 3    | 0     | 0     | 11        | 44 |
| 4:45 PM | 5:00 PM | 7                      | 0    | 0     | 0    | 0                      | 0    | 0     | 0    | 0                    | 1    | 6     | 0    | 1                    | 2    | 0     | 0     | 17        | 42 |
| 5:00 PM | 5:15 PM | 3                      | 0    | 0     | 0    | 0                      | 0    | 0     | 0    | 0                    | 1    | 5     | 0    | 0                    | 1    | 0     | 0     | 10        | 42 |
| 5:15 PM | 5:30 PM | 2                      | 0    | 0     | 0    | 0                      | 0    | 0     | 0    | 0                    | 0    | 3     | 0    | 0                    | 1    | 0     | 0     | 6         |    |
| 5:30 PM | 5:45 PM | 4                      | 0    | 2     | 0    | 0                      | 0    | 0     | 0    | 0                    | 0    | 3     | 0    | 0                    | 0    | 0     | 0     | 9         |    |
| 5:45 PM | 6:00 PM | 6                      | 0    | 1     | 0    | 0                      | 0    | 0     | 0    | 0                    | 0    | 2     | 0    | 0                    | 8    | 0     | 0     | 17        |    |

## Village Rd /Polaris Rd

Date: 8/10/18

|         |         | Village Rd Northbound |      |       |      | Village Rd Southbound |      |       |      | Polaris Rd Eastbound |      |       |      | Polaris Rd Westbound |      |       | Total | 1hr total |    |
|---------|---------|-----------------------|------|-------|------|-----------------------|------|-------|------|----------------------|------|-------|------|----------------------|------|-------|-------|-----------|----|
|         |         | Left                  | Thru | Right | Peds | Left                  | Thru | Right | Peds | Left                 | Thru | Right | Peds | Left                 | Thru | Right | Peds  |           |    |
| 4:00 PM | 4:15 PM | 2                     | 6    | 1     | 0    | 0                     | 3    | 0     | 0    | 0                    | 0    | 2     | 0    | 1                    | 0    | 0     | 1     | 15        | 66 |
| 4:15 PM | 4:30 PM | 2                     | 2    | 2     | 0    | 0                     | 2    | 1     | 0    | 1                    | 0    | 4     | 0    | 0                    | 0    | 0     | 0     | 14        | 65 |
| 4:30 PM | 4:45 PM | 4                     | 5    | 0     | 0    | 0                     | 9    | 1     | 0    | 0                    | 0    | 0     | 0    | 2                    | 0    | 0     | 0     | 21        | 55 |
| 4:45 PM | 5:00 PM | 5                     | 4    | 0     | 0    | 0                     | 4    | 0     | 0    | 0                    | 0    | 2     | 0    | 1                    | 0    | 0     | 0     | 16        | 47 |
| 5:00 PM | 5:15 PM | 2                     | 7    | 0     | 0    | 0                     | 4    | 0     | 0    | 0                    | 0    | 1     | 0    | 0                    | 0    | 0     | 0     | 14        | 42 |
| 5:15 PM | 5:30 PM | 0                     | 1    | 1     | 0    | 0                     | 2    | 0     | 0    | 0                    | 0    | 0     | 0    | 0                    | 0    | 0     | 0     | 4         |    |
| 5:30 PM | 5:45 PM | 2                     | 6    | 0     | 0    | 0                     | 2    | 0     | 0    | 0                    | 0    | 3     | 0    | 0                    | 0    | 0     | 0     | 13        |    |
| 5:45 PM | 6:00 PM | 8                     | 1    | 0     | 0    | 0                     | 0    | 0     | 0    | 0                    | 0    | 0     | 0    | 2                    | 0    | 0     | 0     | 11        |    |

# On Polaris east of High School

9/11/2018

| From    | To      | High School Northbound |         |       |     | High School Southbound |         |       |     | Polaris Eastbound |         |       |     | Polaris Westbound |         |       |     | Total | Total Hourly |
|---------|---------|------------------------|---------|-------|-----|------------------------|---------|-------|-----|-------------------|---------|-------|-----|-------------------|---------|-------|-----|-------|--------------|
|         |         | Left                   | Through | Right | Ped | Left                   | Through | Right | Ped | Left              | Through | Right | Ped | Left              | Through | Right | Ped |       |              |
| 7:00 AM | 7:15 AM | 0                      | 0       | 0     |     | 0                      | 0       | 0     |     | 0                 | 7       | 0     |     | 0                 | 25      | 1     |     | 33    |              |
| 7:15 AM | 7:30 AM | 0                      | 0       | 0     |     | 0                      | 0       | 0     |     | 0                 | 60      | 0     |     | 0                 | 130     | 0     |     | 190   | 223          |
| 7:30 AM | 7:45 AM | 0                      | 0       | 0     |     | 0                      | 0       | 0     |     | 0                 | 19      | 0     |     | 0                 | 27      | 0     |     | 46    | 269          |
| 7:45 AM | 8:00 AM | 0                      | 0       | 0     |     | 0                      | 0       | 0     |     | 0                 | 2       | 0     |     | 0                 | 17      | 0     |     | 19    | 288          |
| 8:00 AM | 8:15 AM | 0                      | 0       | 0     |     | 0                      | 0       | 0     |     | 0                 | 8       | 0     |     | 0                 | 15      | 0     |     | 23    | 278          |
| 8:15 AM | 8:30 AM | 0                      | 0       | 0     |     | 0                      | 0       | 0     |     | 0                 | 35      | 0     |     | 0                 | 66      | 0     |     | 101   | 189          |
| 8:30 AM | 8:45 AM | 0                      | 0       | 0     |     | 0                      | 0       | 0     |     | 0                 | 68      | 0     |     | 0                 | 63      | 0     |     | 131   | 274          |
| 8:45 AM | 9:00 AM | 0                      | 0       | 0     |     | 0                      | 0       | 0     |     | 0                 | 11      | 0     |     | 0                 | 10      | 0     |     | 21    | 276          |
| 2:00 PM | 2:15 PM | 0                      | 0       | 0     |     | 0                      | 1       | 0     |     | 0                 | 7       | 0     |     | 0                 | 8       | 0     |     | 16    |              |
| 2:15 PM | 2:30 PM | 0                      | 0       | 0     |     | 1                      | 0       | 0     |     | 0                 | 14      | 0     |     | 0                 | 24      | 0     |     | 39    |              |
| 2:30 PM | 2:45 PM | 0                      | 0       | 0     |     | 0                      | 0       | 0     |     | 0                 | 63      | 0     |     | 0                 | 18      | 0     |     | 81    |              |
| 2:45 PM | 3:00 PM | 0                      | 0       | 0     |     | 0                      | 0       | 0     |     | 0                 | 18      | 0     |     | 0                 | 16      | 0     |     | 34    | 170          |
| 3:00 PM | 3:15 PM | 0                      | 0       | 0     |     | 0                      | 0       | 0     |     | 0                 | 15      | 0     |     | 0                 | 46      | 0     |     | 61    | 215          |
| 3:15 PM | 3:30 PM | 0                      | 0       | 0     |     | 0                      | 0       | 0     |     | 1                 | 71      | 0     |     | 0                 | 38      | 0     |     | 110   | 286          |
| 3:30 PM | 3:45 PM | 0                      | 0       | 0     |     | 0                      | 0       | 0     |     | 0                 | 31      | 0     |     | 0                 | 19      | 0     |     | 50    | 255          |
| 3:45 PM | 4:00 PM | 0                      | 0       | 0     |     | 0                      | 0       | 0     |     | 0                 | 16      | 0     |     | 0                 | 7       | 0     |     | 23    | 244          |

**TABLE X: Tahoe Cross Country Ski Area Winter Peak-Hour Traffic Volumes**

| Scenario/Intersection                         | Period          | Northbound |         |       | Southbound |         |       | Eastbound |         |       | Westbound |         |       | Total |
|---|-----------------|------------|---------|-------|------------|---------|-------|-----------|---------|-------|-----------|---------|-------|-------|
|   |                 | Left       | Through | Right | Left       | Through | Right | Left      | Through | Right | Left      | Through | Right |       |
| <b>Existing No Project</b>                    |                 |            |         |       |            |         |       |           |         |       |           |         |       |       |
| SR28/Fabian Way                               | Weekday         | -          | -       | -     | 86         | -       | 38    | 51        | 360     | -     | -         | 255     | 66    | 856   |
| SR28/Old Mill Rd                              | Weekday         | -          | -       | -     | 2          | -       | 44    | 40        | 312     | -     | -         | 300     | 7     | 705   |
| Polaris Rd/Old Mill Rd                        | Weekday         | 44         | -       | 4     | -          | -       | -     | -         | 119     | 78    | 3         | 63      | -     | 311   |
| Polaris Rd/Village Rd                         | Weekday         | 53         | 37      | 0     | 0          | 23      | 2     | 4         | 0       | 98    | 0         | 0       | 0     | 217   |
| SR28/Fabian Way                               | Holiday/Weekend | -          | -       | -     | 51         | -       | 43    | 37        | 635     | -     | -         | 419     | 52    | 1,237 |
| SR28/Old Mill Rd                              | Holiday/Weekend | -          | -       | -     | 4          | -       | 26    | 23        | 649     | -     | -         | 464     | 2     | 1,168 |
| <b>Existing Plus New Lodge at New Site</b>    |                 |            |         |       |            |         |       |           |         |       |           |         |       |       |
| SR28/Fabian Way                               | Weekday         | -          | -       | -     | 88         | -       | 46    | 44        | 360     | -     | -         | 255     | 85    | 878   |
| SR28/Old Mill Rd                              | Weekday         | -          | -       | -     | 2          | -       | 48    | 69        | 305     | -     | -         | 308     | 7     | 739   |
| Polaris Rd/Old Mill Rd                        | Weekday         | 73         | -       | 4     | -          | -       | -     | -         | 132     | 82    | 3         | 109     | -     | 403   |
| Polaris Rd/Village Rd                         | Weekday         | 99         | 3       | 0     | 0          | 20      | 2     | 4         | 0       | 111   | 0         | 0       | 0     | 239   |
| SR28/Fabian Way                               | Holiday/Weekend | -          | -       | -     | 45         | -       | 43    | 34        | 635     | -     | -         | 431     | 58    | 1,246 |
| SR28/Old Mill Rd                              | Holiday/Weekend | -          | -       | -     | 4          | -       | 48    | 48        | 646     | -     | -         | 464     | 14    | 1,224 |
| <b>Existing Plus Project at Existing Site</b> |                 |            |         |       |            |         |       |           |         |       |           |         |       |       |
| SR28/Fabian Way                               | Weekday         | -          | -       | -     | 87         | -       | 39    | 74        | 360     | -     | -         | 255     | 84    | 899   |
| SR28/Old Mill Rd                              | Weekday         | -          | -       | -     | 2          | -       | 44    | 40        | 335     | -     | -         | 301     | 7     | 729   |
| Polaris Rd/Old Mill Rd                        | Weekday         | 44         | -       | 4     | -          | -       | -     | -         | 119     | 78    | 3         | 63      | -     | 311   |
| Polaris Rd/Village Rd                         | Weekday         | 53         | 78      | 0     | 0          | 25      | 2     | 4         | 0       | 98    | 0         | 0       | 0     | 260   |
| SR28/Fabian Way                               | Holiday/Weekend | -          | -       | -     | 54         | -       | 46    | 59        | 635     | -     | -         | 419     | 70    | 1,283 |
| SR28/Old Mill Rd                              | Holiday/Weekend | -          | -       | -     | 4          | -       | 26    | 23        | 671     | -     | -         | 467     | 2     | 1,193 |
| <b>Future No Project</b>                      |                 |            |         |       |            |         |       |           |         |       |           |         |       |       |
| SR28/Fabian Way                               | Weekday         | -          | -       | -     | 96         | -       | 48    | 71        | 454     | -     | -         | 318     | 82    | 1,069 |
| SR28/Old Mill Rd                              | Weekday         | -          | -       | -     | 2          | -       | 45    | 41        | 417     | -     | -         | 381     | 7     | 893   |
| Polaris Rd/Old Mill Rd                        | Weekday         | 44         | -       | 4     | -          | -       | -     | -         | 119     | 78    | 3         | 63      | -     | 311   |
| Polaris Rd/Village Rd                         | Weekday         | 53         | 37      | 0     | 0          | 24      | 2     | 4         | 0       | 98    | 0         | 0       | 0     | 218   |
| SR28/Fabian Way                               | Holiday/Weekend | -          | -       | -     | 61         | -       | 53    | 57        | 783     | -     | -         | 514     | 68    | 1,536 |
| SR28/Old Mill Rd                              | Holiday/Weekend | -          | -       | -     | 4          | -       | 27    | 24        | 819     | -     | -         | 577     | 2     | 1,453 |
| <b>Future Plus New Lodge at New Site</b>      |                 |            |         |       |            |         |       |           |         |       |           |         |       |       |
| SR28/Fabian Way                               | Weekday         | -          | -       | -     | 98         | -       | 56    | 64        | 454     | -     | -         | 318     | 101   | 1,091 |
| SR28/Old Mill Rd                              | Weekday         | -          | -       | -     | 2          | -       | 49    | 70        | 410     | -     | -         | 389     | 7     | 927   |
| Polaris Rd/Old Mill Rd                        | Weekday         | 73         | -       | 4     | -          | -       | -     | -         | 132     | 82    | 3         | 109     | -     | 403   |
| Polaris Rd/Village Rd                         | Weekday         | 99         | 3       | 0     | 0          | 21      | 2     | 4         | 0       | 111   | 0         | 0       | 0     | 240   |
| SR28/Fabian Way                               | Holiday/Weekend | -          | -       | -     | 55         | -       | 53    | 54        | 783     | -     | -         | 526     | 74    | 1,545 |
| SR28/Old Mill Rd                              | Holiday/Weekend | -          | -       | -     | 4          | -       | 49    | 49        | 816     | -     | -         | 577     | 14    | 1,509 |
| <b>Future Plus New Lodge at Existing Site</b> |                 |            |         |       |            |         |       |           |         |       |           |         |       |       |
| SR28/Fabian Way                               | Weekday         | -          | -       | -     | 97         | -       | 49    | 94        | 454     | -     | -         | 318     | 100   | 1,112 |
| SR28/Old Mill Rd                              | Weekday         | -          | -       | -     | 2          | -       | 45    | 41        | 440     | -     | -         | 382     | 7     | 917   |
| Polaris Rd/Old Mill Rd                        | Weekday         | 44         | -       | 4     | -          | -       | -     | -         | 119     | 78    | 3         | 63      | -     | 311   |
| Polaris Rd/Village Rd                         | Weekday         | 53         | 78      | 0     | 0          | 26      | 2     | 4         | 0       | 98    | 0         | 0       | 0     | 261   |
| SR28/Fabian Way                               | Holiday/Weekend | -          | -       | -     | 64         | -       | 56    | 79        | 783     | -     | -         | 514     | 86    | 1,582 |
| SR28/Old Mill Rd                              | Holiday/Weekend | -          | -       | -     | 4          | -       | 27    | 24        | 841     | -     | -         | 580     | 2     | 1,478 |

Note: Winter Volumes from original Study

Source: LSC Transportation Consultants, Inc.

2018 Tahoe XC.xlsx

**TABLE X: Tahoe Cross Country Ski Area Summer Peak-Hour Traffic Volumes**

| Scenario/Intersection                         | Period  | Northbound |         |       | Southbound |         |       | Eastbound |         |       | Westbound |         |       | Total |
|---|---------|------------|---------|-------|------------|---------|-------|-----------|---------|-------|-----------|---------|-------|-------|
|   |         | Left       | Through | Right | Left       | Through | Right | Left      | Through | Right | Left      | Through | Right |       |
| <b>Existing No Project</b>                    |         |            |         |       |            |         |       |           |         |       |           |         |       |       |
| SR28/Fabian Way                               | Weekday | -          | -       | -     | 28         | -       | 28    | 31        | 661     | -     | -         | 453     | 25    | 1,226 |
| SR28/Old Mill Rd                              | Weekday | -          | -       | -     | 3          | -       | 25    | 37        | 655     | -     | -         | 437     | 11    | 1,168 |
| Polaris Rd/Old Mill Rd                        | Weekday | 12         | -       | 6     | -          | -       | -     | -         | 9       | 17    | 3         | 9       | -     | 56    |
| Polaris Rd/Village Rd                         | Weekday | 13         | 17      | 3     | 0          | 18      | 2     | 1         | 0       | 8     | 4         | 0       | 0     | 66    |
| <b>Existing Plus New Lodge at New Site</b>    |         |            |         |       |            |         |       |           |         |       |           |         |       |       |
| SR28/Fabian Way                               | Weekday | -          | -       | -     | 48         | -       | 24    | 22        | 661     | -     | -         | 453     | 54    | 1,262 |
| SR28/Old Mill Rd                              | Weekday | -          | -       | -     | 3          | -       | 55    | 79        | 646     | -     | -         | 433     | 11    | 1,227 |
| Polaris Rd/Old Mill Rd                        | Weekday | 54         | -       | 6     | -          | -       | -     | -         | 33      | 47    | 3         | 46      | -     | 189   |
| Polaris Rd/Village Rd                         | Weekday | 50         | 0       | 3     | 0          | 10      | 2     | 1         | 0       | 32    | 4         | 0       | 0     | 102   |
| <b>Existing Plus Project at Existing Site</b> |         |            |         |       |            |         |       |           |         |       |           |         |       |       |
| SR28/Fabian Way                               | Weekday | -          | -       | -     | 43         | -       | 47    | 65        | 661     | -     | -         | 453     | 53    | 1,322 |
| SR28/Old Mill Rd                              | Weekday | -          | -       | -     | 3          | -       | 25    | 37        | 689     | -     | -         | 456     | 11    | 1,221 |
| Polaris Rd/Old Mill Rd                        | Weekday | 12         | -       | 6     | -          | -       | -     | -         | 9       | 17    | 3         | 9       | -     | 56    |
| Polaris Rd/Village Rd                         | Weekday | 13         | 79      | 3     | 0          | 52      | 2     | 1         | 0       | 8     | 4         | 0       | 0     | 162   |
| <b>Future No Project</b>                      |         |            |         |       |            |         |       |           |         |       |           |         |       |       |
| SR28/Fabian Way                               | Weekday | -          | -       | -     | 38         | -       | 38    | 51        | 777     | -     | -         | 530     | 41    | 1,475 |
| SR28/Old Mill Rd                              | Weekday | -          | -       | -     | 3          | -       | 26    | 38        | 790     | -     | -         | 520     | 11    | 1,388 |
| Polaris Rd/Old Mill Rd                        | Weekday | 12         | -       | 6     | -          | -       | -     | -         | 9       | 17    | 3         | 9       | -     | 56    |
| Polaris Rd/Village Rd                         | Weekday | 13         | 17      | 3     | 0          | 19      | 2     | 1         | 0       | 8     | 4         | 0       | 0     | 67    |
| <b>Future Plus New Lodge at New Site</b>      |         |            |         |       |            |         |       |           |         |       |           |         |       |       |
| SR28/Fabian Way                               | Weekday | -          | -       | -     | 58         | -       | 34    | 42        | 777     | -     | -         | 530     | 70    | 1,511 |
| SR28/Old Mill Rd                              | Weekday | -          | -       | -     | 3          | -       | 56    | 80        | 781     | -     | -         | 516     | 11    | 1,447 |
| Polaris Rd/Old Mill Rd                        | Weekday | 54         | -       | 6     | -          | -       | -     | -         | 33      | 47    | 3         | 46      | -     | 189   |
| Polaris Rd/Village Rd                         | Weekday | 50         | 0       | 3     | 0          | 11      | 2     | 1         | 0       | 32    | 4         | 0       | 0     | 103   |
| <b>Future Plus New Lodge at Existing Site</b> |         |            |         |       |            |         |       |           |         |       |           |         |       |       |
| SR28/Fabian Way                               | Weekday | -          | -       | -     | 53         | -       | 57    | 85        | 777     | -     | -         | 530     | 69    | 1,571 |
| SR28/Old Mill Rd                              | Weekday | -          | -       | -     | 3          | -       | 26    | 38        | 824     | -     | -         | 539     | 11    | 1,441 |
| Polaris Rd/Old Mill Rd                        | Weekday | 12         | -       | 6     | -          | -       | -     | -         | 9       | 17    | 3         | 9       | -     | 56    |
| Polaris Rd/Village Rd                         | Weekday | 13         | 79      | 3     | 0          | 53      | 2     | 1         | 0       | 8     | 4         | 0       | 0     | 163   |

Note: Winter Volumes from original Study

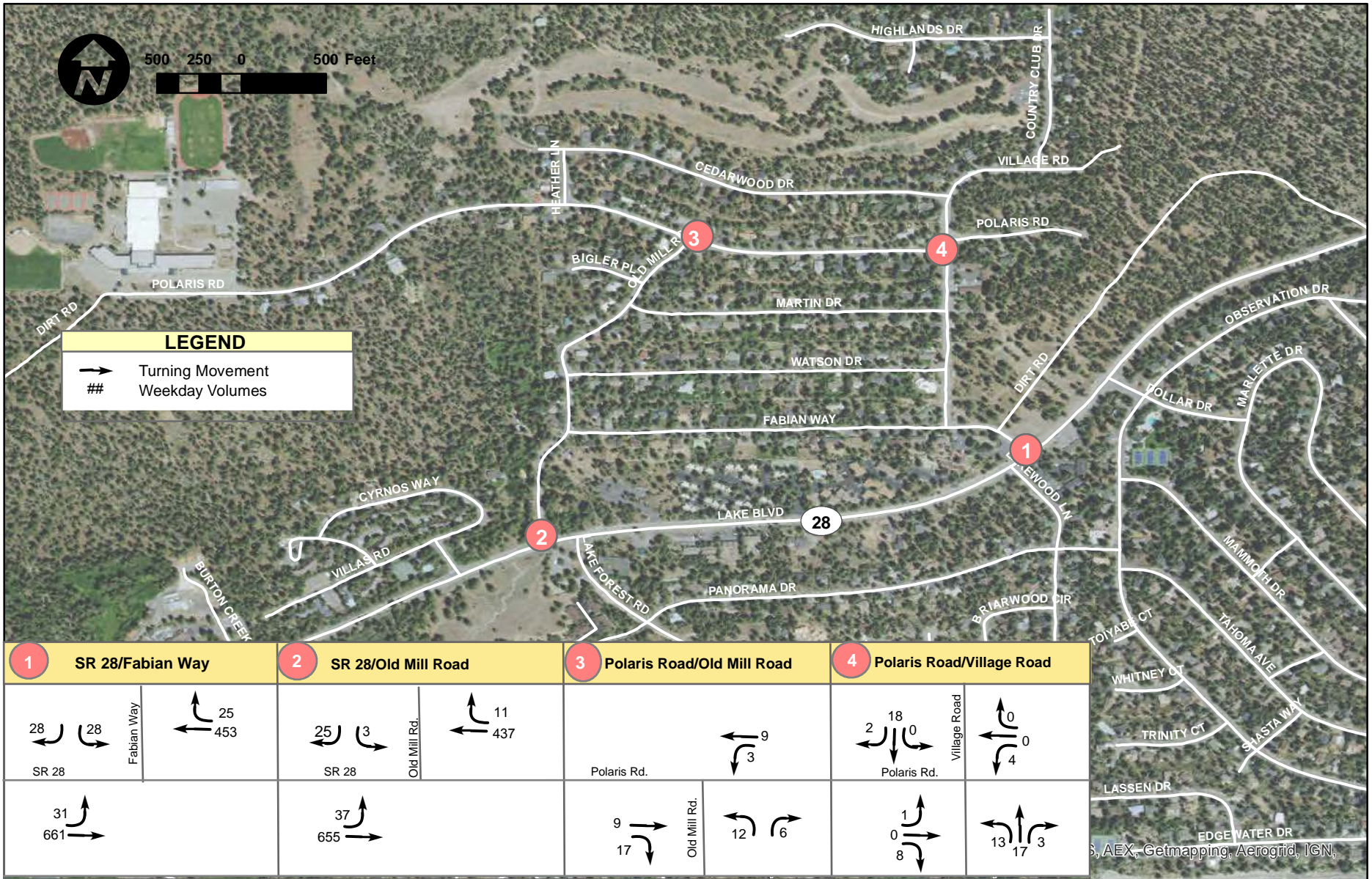
Source: LSC Transportation Consultants, Inc.

2018 Tahoe XC.xlsx

## Appendix B- Summer Traffic Volumes

---

**Figure B-1**  
**Summer Existing No Project Volumes**

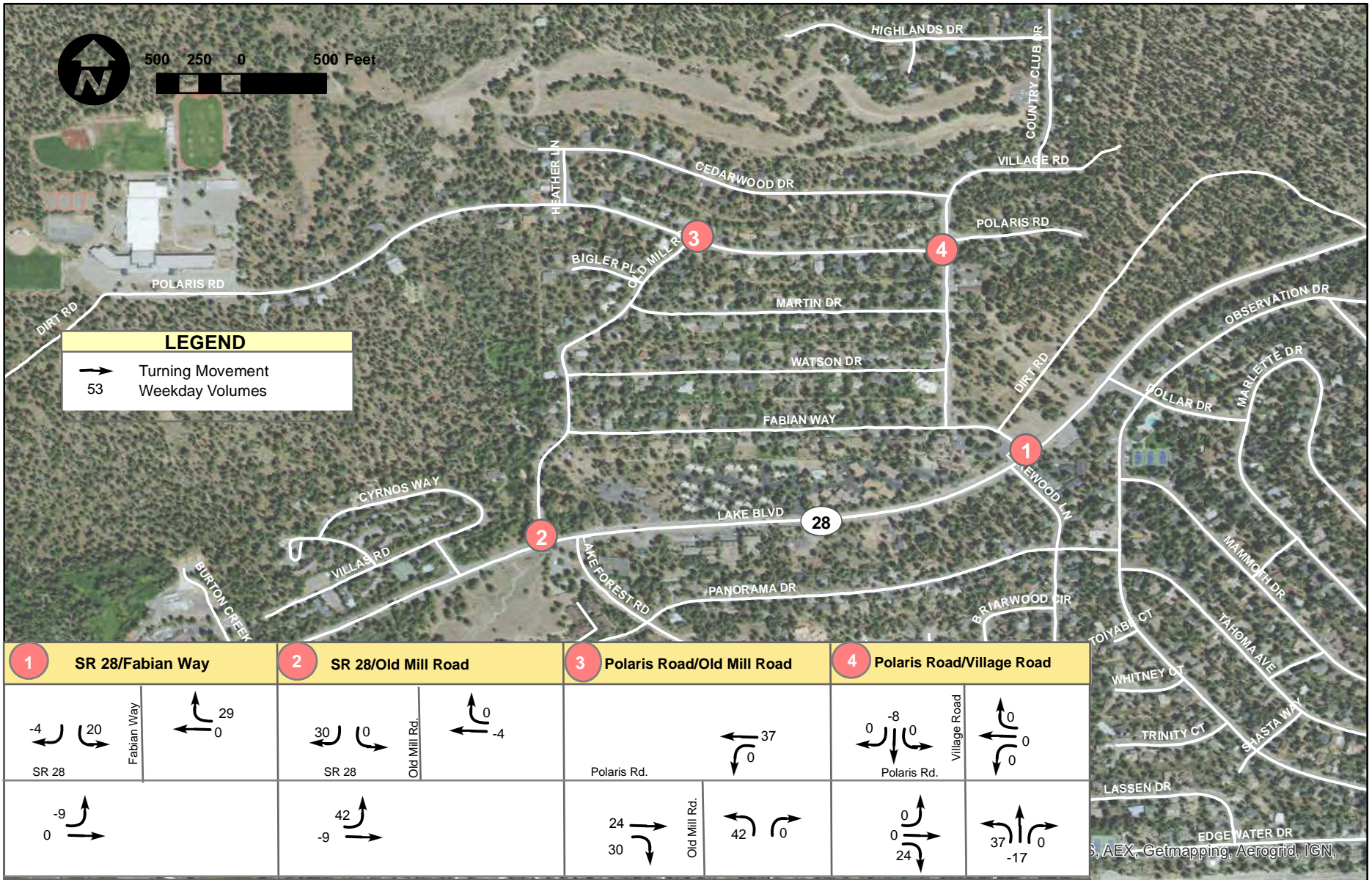






Note: These volumes are from a previous version that assumed more summer activities occurring at the site. The summer volumes with the currently proposed project would be lower than these volumes

**Figure B-2**  
**Summer Net impact - Proposed Project (Site D)**

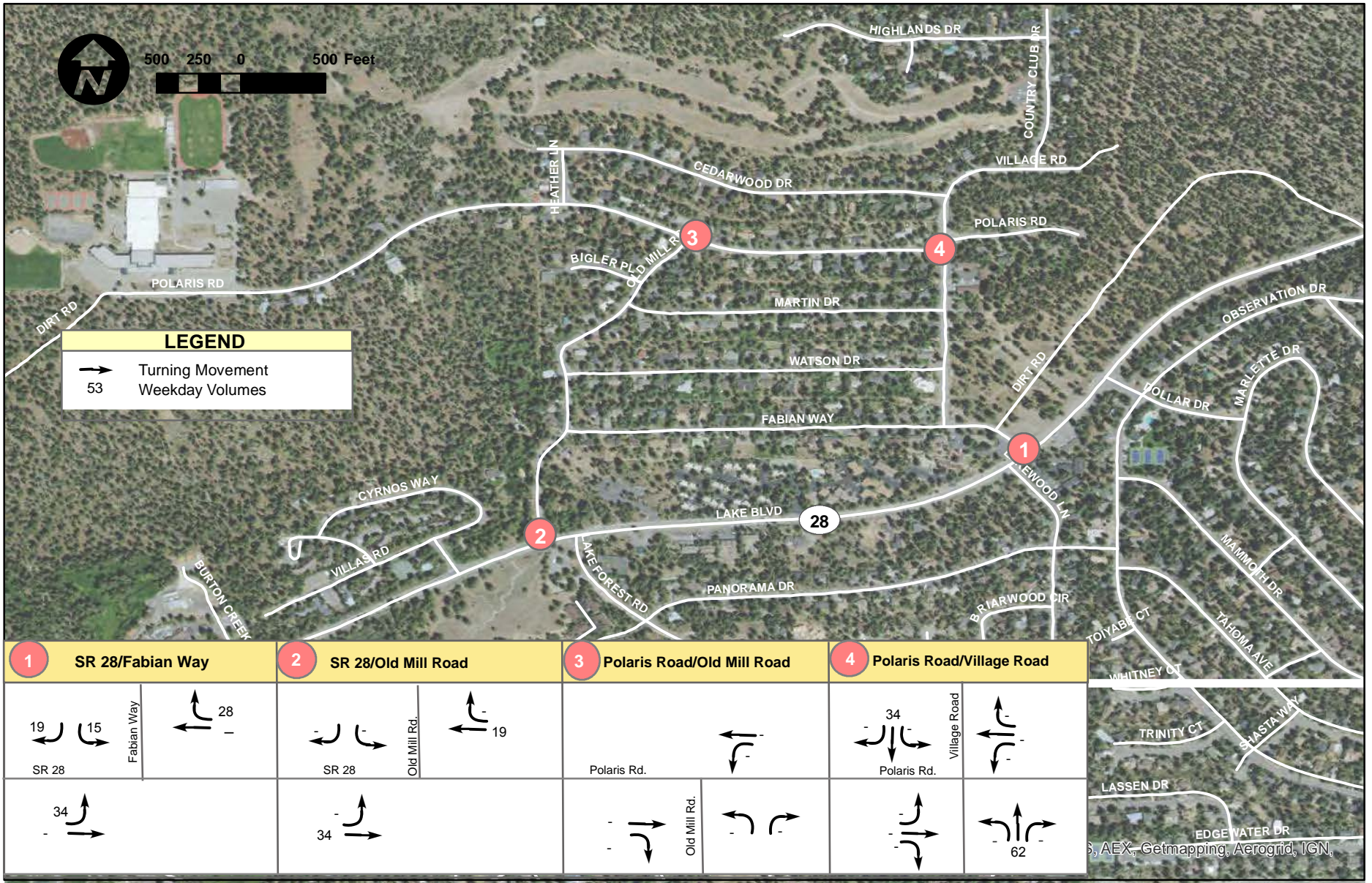


Map data by Esri, DeLorme, GeoEye, AerialEye, IGN, GEBCO, Esri, DigitalGlobe, GeoEye, AeroGRID, IGN, Esri, AerialEye, Getmapping, Aerogrid, IGN,



Note: These volumes are from a previous version that assumed more summer activities occurring at the site. The summer volumes with the currently proposed project would be lower than these volumes

**Figure B-3**  
**Summer Net impact - Project Alternative (Site A)**

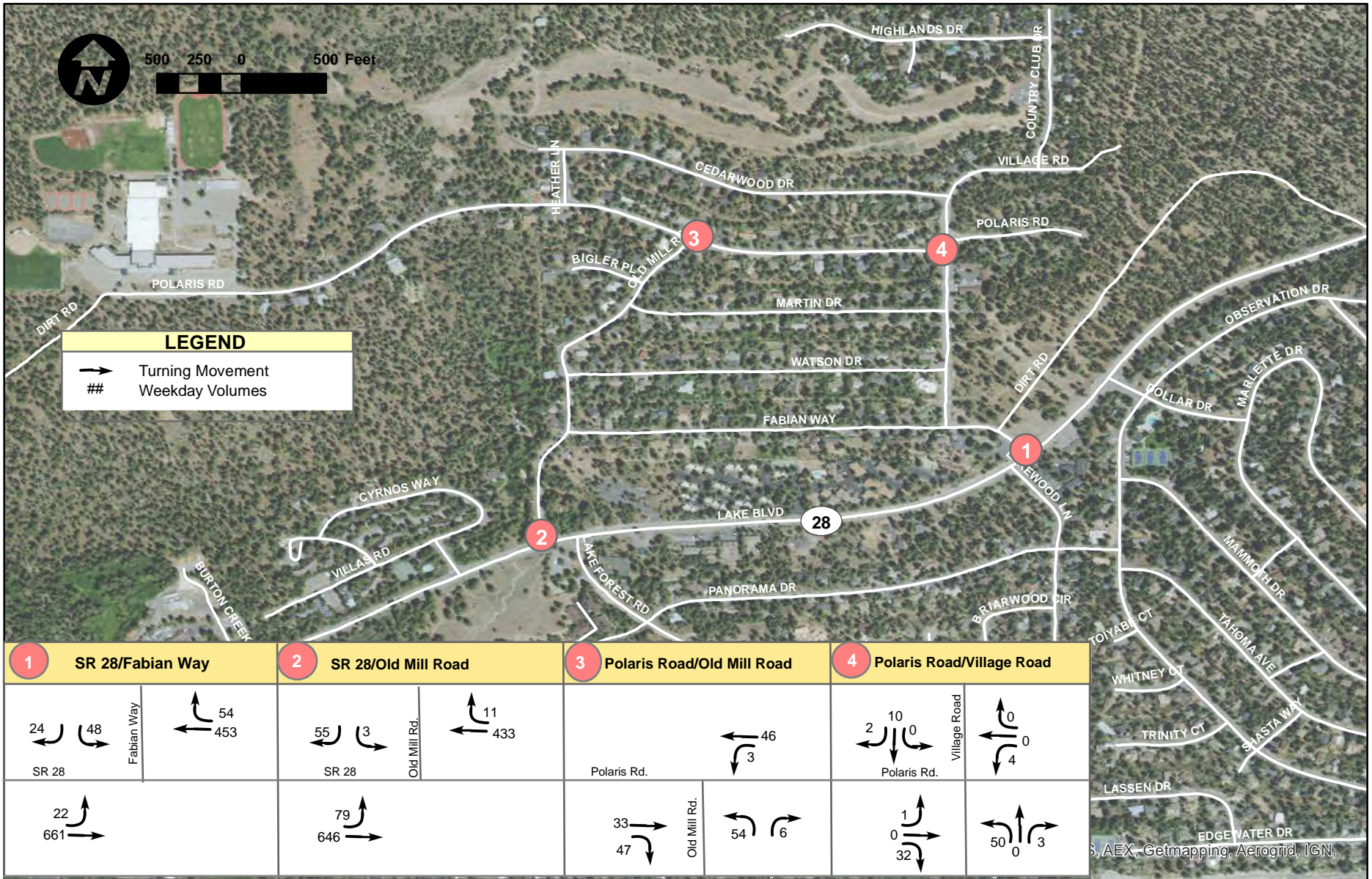


Map data by Esri, AEX, Getmapping, Aerogrid, IGN,



Note: These volumes are from a previous version that assumed more summer activities occurring at the site. The summer volumes with the currently proposed project would be lower than these volumes

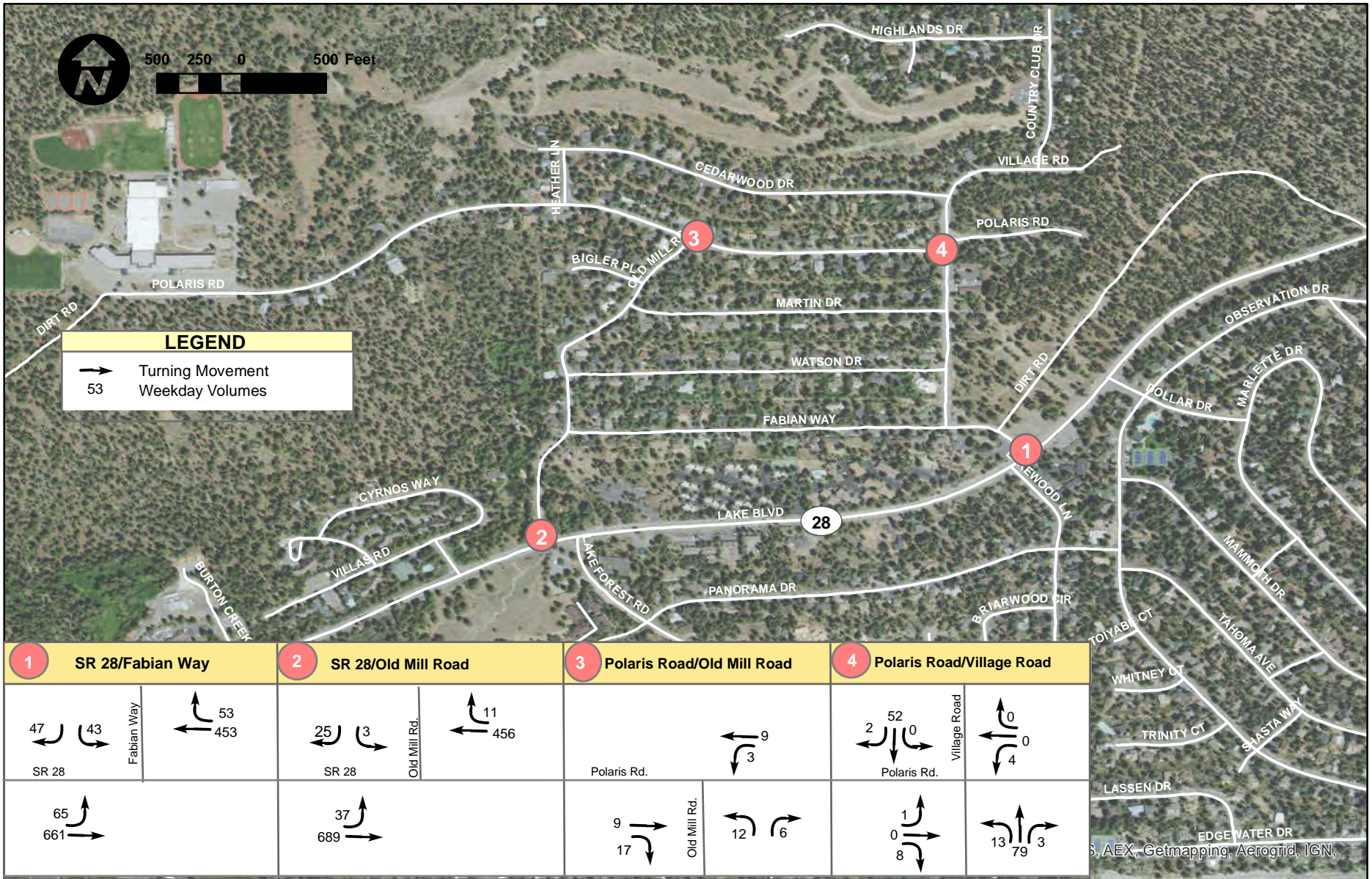
**Figure B-4**  
**Summer Existing With Proposed Project (Site D)**



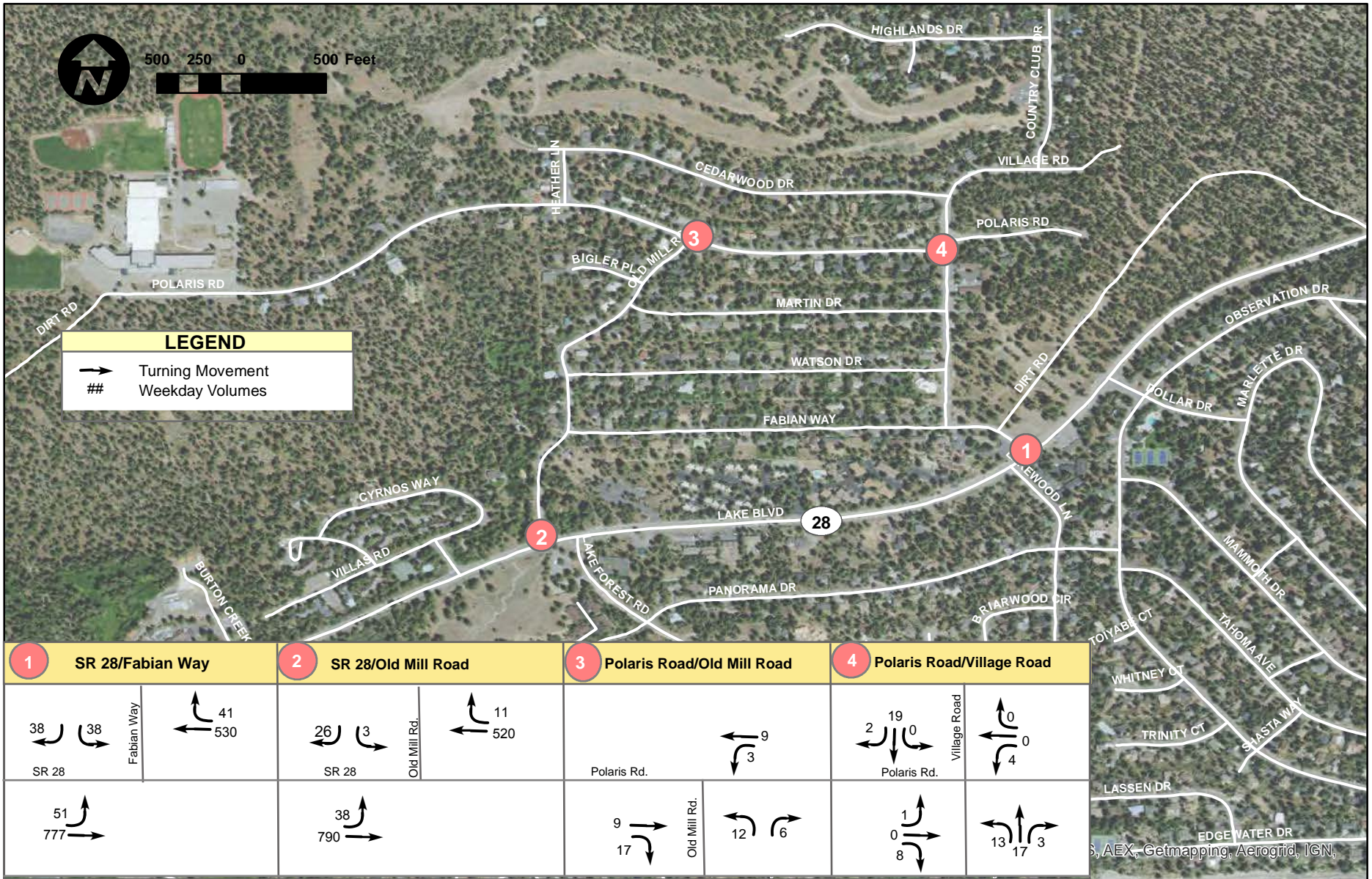


Note: These volumes are from a previous version that assumed more summer activities occurring at the site. The summer volumes with the currently proposed project would be lower than these volumes

**Figure B-5**  
**Summer Existing With Project Alternative (Site A)**



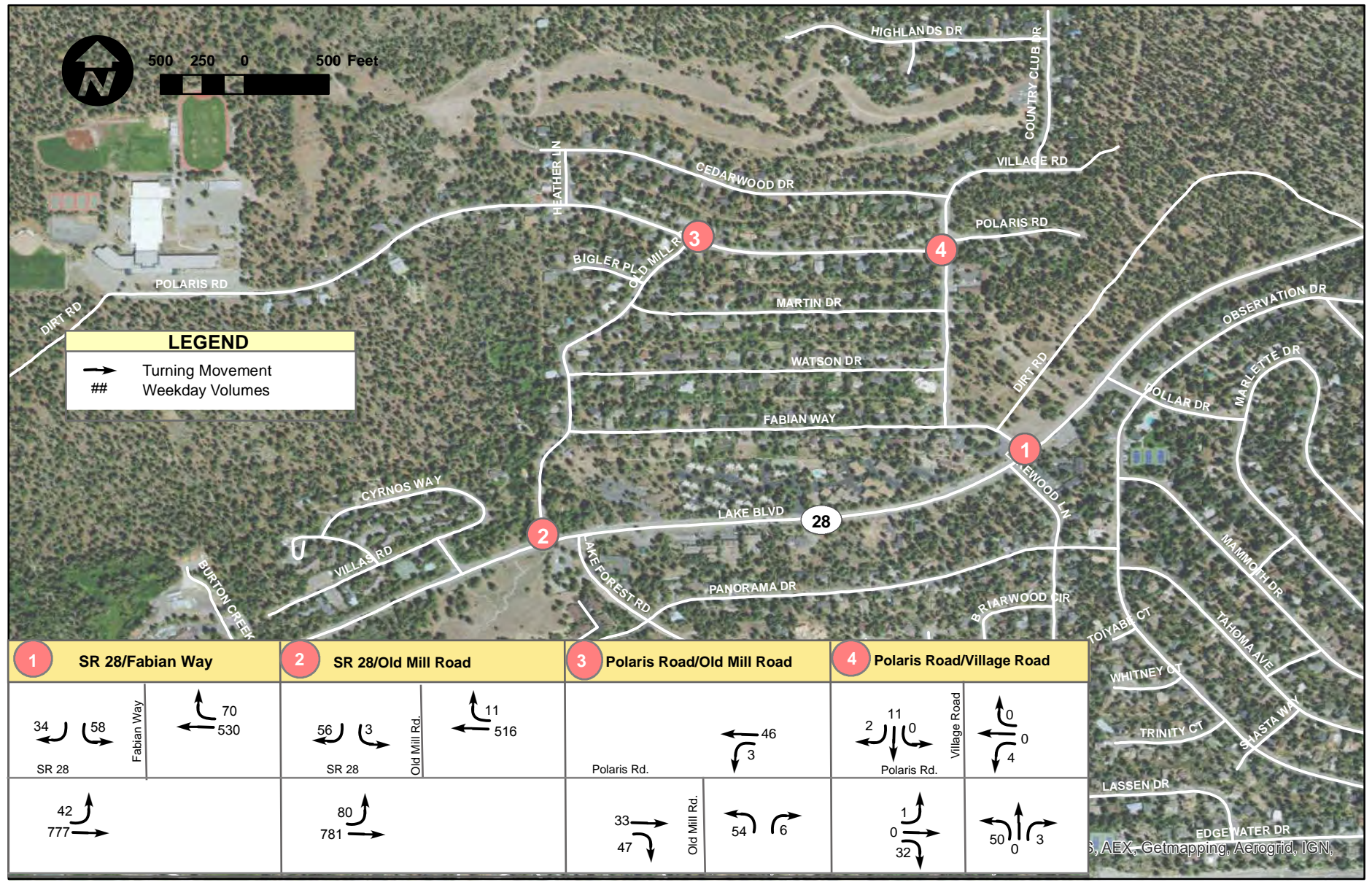
**Figure B-6**  
**Summer Future No Project Volumes**





Note: These volumes are from a previous version that assumed more summer activities occurring at the site. The summer volumes with the currently proposed project would be lower than these volumes

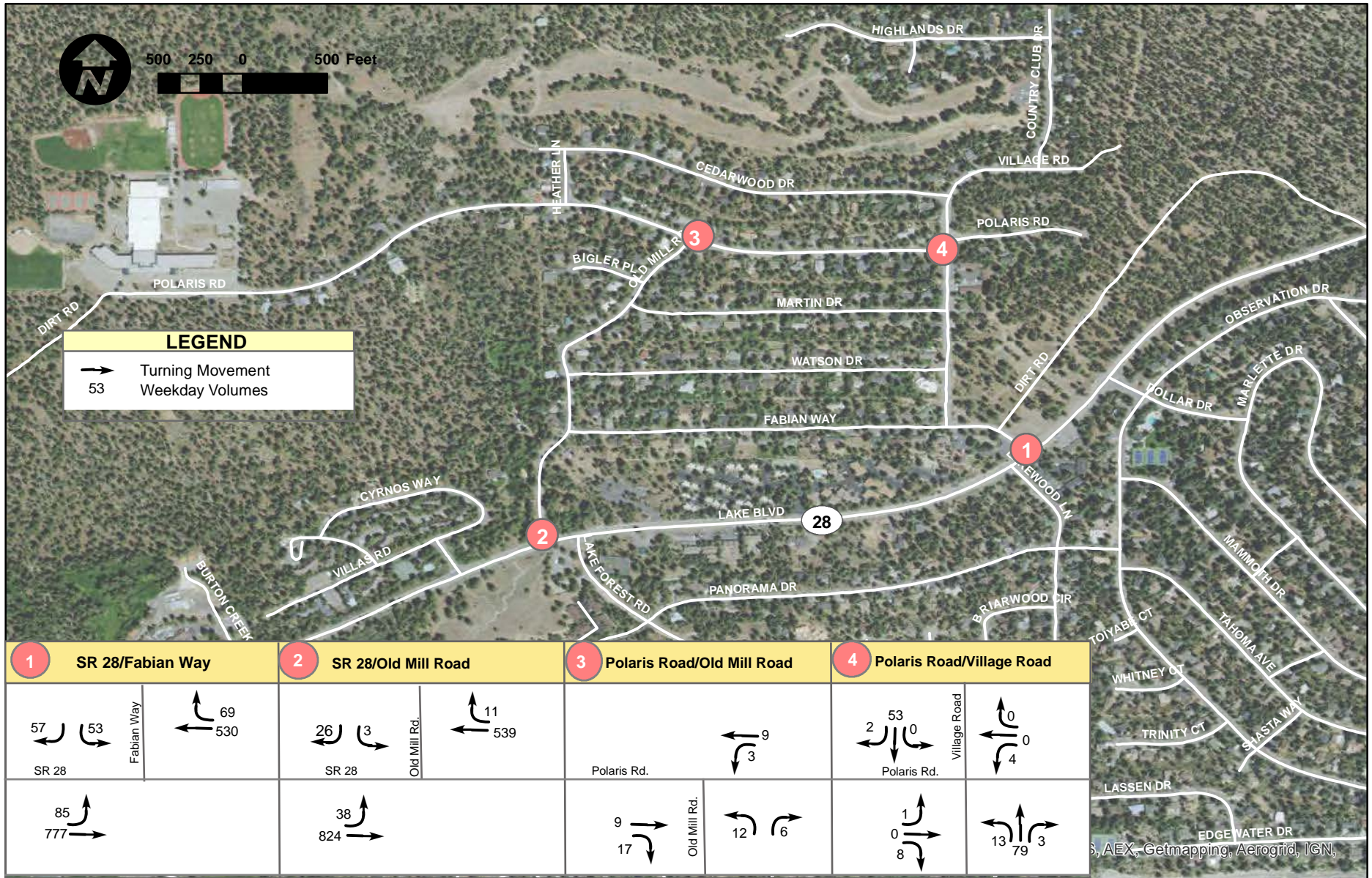
**Figure B-7**  
**Summer Future With Proposed Project ( Site D)**





Note: These volumes are from a previous version that assumed more summer activities occurring at the site. The summer volumes with the currently proposed project would be lower than these volumes

**Figure B-8**  
**Summer Future With Project Alternative (Site A)**



3, AEX, Getmapping, Aerogrid, IGN,





## DESCRIPTIONS OF LEVELS OF SERVICE

The concept of level of service is defined as a qualitative measure describing operational conditions within a traffic stream, and their perception by motorists and/or passengers. A level of service definition generally describes these conditions in terms of such factors as speed and travel time, freedom to maneuver, traffic interruptions, comfort and convenience, and safety. Six levels of service are defined for each type of facility for which analysis procedures are available. They are given letter designations, from A to F, with level of service A representing the best operating conditions and level of service F the worst.

### *Level of Service Definitions*

In general, the various levels of service are defined as follows for uninterrupted flow facilities:

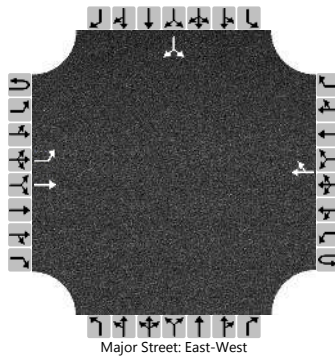
- **Level of service A** represents free flow. Individual users are virtually unaffected by the presence of others in the traffic stream. Freedom to select desired speeds and to maneuver within the traffic stream is extremely high. The general level of comfort and convenience provided to the motorist, passenger, or pedestrian is excellent.
- **Level of service B** is in the range of stable flow, but the presence of other users in the traffic stream begins to be noticeable. Freedom to select desired speeds is relatively unaffected, but there is a slight decline in the freedom to maneuver within the traffic stream from LOS A. The level of comfort and convenience provided is somewhat less than at LOS A, because the presence of others in the traffic stream begins to affect individual behavior.
- **Level of service C** is in the range of stable flow, but marks the beginning of the range of flow in which the operation of individual users becomes significantly affected by interactions with others in the traffic stream. The selection of speed is now affected by the presence of others, and maneuvering within the traffic stream requires substantial vigilance on the part of the user. The general level of comfort and convenience declines noticeably at this level.
- **Level of Service D** represents high-density, but stable, flow. Speed and freedom to maneuver are severely restricted, and the driver or pedestrian experiences a generally poor level of comfort and convenience. Small increases in traffic flow will generally cause operational problems at this level.
- **Level of service E** represents operating conditions at or near the capacity level. All speeds are reduced to a low, but relatively uniform value. Freedom to maneuver within the traffic stream is extremely difficult, and it is generally accomplished by forcing a vehicle or pedestrian to “give way” to accommodate such maneuvers. Comfort and convenience levels are extremely poor, and driver or pedestrian frustration is generally high. Operations at this level are usually unstable, because small increases in flow or minor perturbations within the traffic stream will cause breakdowns.
- **Level of service F** is used to define forced or breakdown flow. This condition exists wherever the amount of traffic approaching a point exceeds the amount which can traverse the point. Queues form behind such locations. Operations within the queue are characterized by stop-and-go waves, and they are extremely unstable. Vehicles may progress at reasonable speeds for several hundred feet or more, then be required to stop in a cyclic fashion. Level of service F is used to describe the operating conditions within the queue, as well as the point of the breakdown. It should be noted, however, that in many cases operating conditions of vehicles or pedestrians discharged from the queue may be quite good. Nevertheless, it is the point at which arrival flow exceeds discharge flow which causes the queue to form, and level of service F is an appropriate designation for such points.



# HCS7 Two-Way Stop-Control Report

| General Information      |                     |  |  | Site Information           |            |  |  |
|--------------------------|---------------------|--|--|----------------------------|------------|--|--|
| Analyst                  | Chris Hawkins       |  |  | Intersection               | SR28Fabian |  |  |
| Agency/Co.               | LSC                 |  |  | Jurisdiction               |            |  |  |
| Date Performed           | 2/26/2019           |  |  | East/West Street           | SR 28      |  |  |
| Analysis Year            | 2018                |  |  | North/South Street         | Fabian Way |  |  |
| Time Analyzed            | 2                   |  |  | Peak Hour Factor           | 0.92       |  |  |
| Intersection Orientation | East-West           |  |  | Analysis Time Period (hrs) | 0.25       |  |  |
| Project Description      | Existing No Project |  |  |                            |            |  |  |

## Lanes



## Vehicle Volumes and Adjustments

| Approach                   | Eastbound |    |     |   | Westbound |   |           |    | Northbound |   |   |   | Southbound |    |    |    |
|----------------------------|-----------|----|-----|---|-----------|---|-----------|----|------------|---|---|---|------------|----|----|----|
|                            | U         | L  | T   | R | U         | L | T         | R  | U          | L | T | R | U          | L  | T  | R  |
| Movement                   | 1U        | 1  | 2   | 3 | 4U        | 4 | 5         | 6  |            | 7 | 8 | 9 |            | 10 | 11 | 12 |
| Priority                   |           |    |     |   |           |   |           |    |            |   |   |   |            |    |    |    |
| Number of Lanes            | 0         | 1  | 1   | 0 | 0         | 0 | 1         | 0  |            | 0 | 0 | 0 |            | 0  | 1  | 0  |
| Configuration              |           | L  | T   |   |           |   |           | TR |            |   |   |   |            |    | LR |    |
| Volume (veh/h)             |           | 31 | 661 |   |           |   | 453       | 25 |            |   |   |   |            | 28 |    | 28 |
| Percent Heavy Vehicles (%) |           | 3  |     |   |           |   |           |    |            |   |   |   |            | 3  |    | 3  |
| Proportion Time Blocked    |           |    |     |   |           |   |           |    |            |   |   |   |            |    |    |    |
| Percent Grade (%)          |           |    |     |   |           |   |           |    |            |   |   |   |            | -8 |    |    |
| Right Turn Channelized     |           |    |     |   |           |   |           |    |            |   |   |   |            |    |    |    |
| Median Type   Storage      |           |    |     |   |           |   | Left Only |    |            |   |   | 1 |            |    |    |    |

## Critical and Follow-up Headways

|                              |  |      |  |  |  |  |  |  |  |  |  |  |  |      |  |      |
|------------------------------|--|------|--|--|--|--|--|--|--|--|--|--|--|------|--|------|
| Base Critical Headway (sec)  |  | 4.1  |  |  |  |  |  |  |  |  |  |  |  | 7.1  |  | 6.2  |
| Critical Headway (sec)       |  | 4.13 |  |  |  |  |  |  |  |  |  |  |  | 4.83 |  | 5.43 |
| Base Follow-Up Headway (sec) |  | 2.2  |  |  |  |  |  |  |  |  |  |  |  | 3.5  |  | 3.3  |
| Follow-Up Headway (sec)      |  | 2.23 |  |  |  |  |  |  |  |  |  |  |  | 3.53 |  | 3.33 |

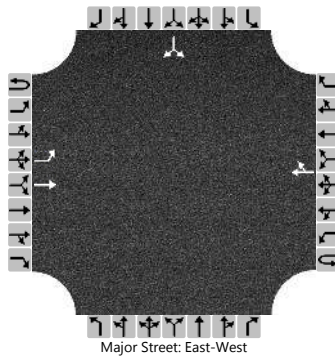
## Delay, Queue Length, and Level of Service

|   |  |      |     |  |  |  |  |  |  |  |  |  |  |  |      |  |
|---|--|------|-----|--|--|--|--|--|--|--|--|--|--|--|------|--|
| Flow Rate, v (veh/h)                    |  | 34   |     |  |  |  |  |  |  |  |  |  |  |  | 61   |  |
| Capacity, c (veh/h)                     |  | 1038 |     |  |  |  |  |  |  |  |  |  |  |  | 892  |  |
| v/c Ratio                               |  | 0.03 |     |  |  |  |  |  |  |  |  |  |  |  | 0.07 |  |
| 95% Queue Length, Q <sub>95</sub> (veh) |  | 0.1  |     |  |  |  |  |  |  |  |  |  |  |  | 0.2  |  |
| Control Delay (s/veh)                   |  | 8.6  |     |  |  |  |  |  |  |  |  |  |  |  | 9.3  |  |
| Level of Service (LOS)                  |  | A    |     |  |  |  |  |  |  |  |  |  |  |  | A    |  |
| Approach Delay (s/veh)                  |  |      | 0.4 |  |  |  |  |  |  |  |  |  |  |  | 9.3  |  |
| Approach LOS                            |  |      |     |  |  |  |  |  |  |  |  |  |  |  | A    |  |

# HCS7 Two-Way Stop-Control Report

| General Information      |                             |  |  | Site Information           |                |  |  |
|--------------------------|-----------------------------|--|--|----------------------------|----------------|--|--|
| Analyst                  | Chris Hawkins               |  |  | Intersection               | Old Mill/SR 28 |  |  |
| Agency/Co.               | LSC                         |  |  | Jurisdiction               |                |  |  |
| Date Performed           | 2/27/2019                   |  |  | East/West Street           | SR28           |  |  |
| Analysis Year            | 2019                        |  |  | North/South Street         | Old Mill       |  |  |
| Time Analyzed            |                             |  |  | Peak Hour Factor           | 0.92           |  |  |
| Intersection Orientation | East-West                   |  |  | Analysis Time Period (hrs) | 0.25           |  |  |
| Project Description      | Tahoe XC Summer Existing NP |  |  |                            |                |  |  |

## Lanes



## Vehicle Volumes and Adjustments

| Approach                   | Eastbound |    |     |   | Westbound |   |     |    | Northbound |   |   |   | Southbound |     |    |    |
|----------------------------|-----------|----|-----|---|-----------|---|-----|----|------------|---|---|---|------------|-----|----|----|
|                            | U         | L  | T   | R | U         | L | T   | R  | U          | L | T | R | U          | L   | T  | R  |
| Movement                   | 1U        | 1  | 2   | 3 | 4U        | 4 | 5   | 6  |            | 7 | 8 | 9 |            | 10  | 11 | 12 |
| Number of Lanes            | 0         | 1  | 1   | 0 | 0         | 0 | 1   | 0  |            | 0 | 0 | 0 |            | 0   | 1  | 0  |
| Configuration              |           | L  | T   |   |           |   |     | TR |            |   |   |   |            |     | LR |    |
| Volume (veh/h)             |           | 37 | 655 |   |           |   | 437 | 11 |            |   |   |   |            | 3   |    | 25 |
| Percent Heavy Vehicles (%) |           | 3  |     |   |           |   |     |    |            |   |   |   |            | 3   |    | 3  |
| Proportion Time Blocked    |           |    |     |   |           |   |     |    |            |   |   |   |            |     |    |    |
| Percent Grade (%)          |           |    |     |   |           |   |     |    |            |   |   |   |            | -10 |    |    |
| Right Turn Channelized     |           |    |     |   |           |   |     |    |            |   |   |   |            |     |    |    |
| Median Type   Storage      | Undivided |    |     |   |           |   |     |    |            |   |   |   |            |     |    |    |

## Critical and Follow-up Headways

|                              |  |      |  |  |  |  |  |  |  |  |  |  |  |      |  |      |
|------------------------------|--|------|--|--|--|--|--|--|--|--|--|--|--|------|--|------|
| Base Critical Headway (sec)  |  | 4.1  |  |  |  |  |  |  |  |  |  |  |  | 7.1  |  | 6.2  |
| Critical Headway (sec)       |  | 4.13 |  |  |  |  |  |  |  |  |  |  |  | 4.43 |  | 5.23 |
| Base Follow-Up Headway (sec) |  | 2.2  |  |  |  |  |  |  |  |  |  |  |  | 3.5  |  | 3.3  |
| Follow-Up Headway (sec)      |  | 2.23 |  |  |  |  |  |  |  |  |  |  |  | 3.53 |  | 3.33 |

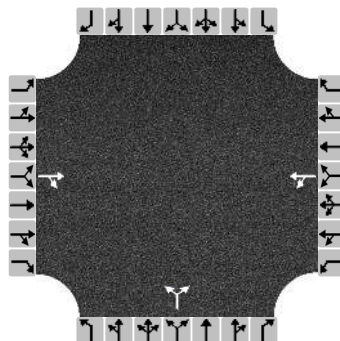
## Delay, Queue Length, and Level of Service

|   |  |      |  |  |  |  |  |  |  |  |  |  |  |      |  |      |
|---|--|------|--|--|--|--|--|--|--|--|--|--|--|------|--|------|
| Flow Rate, v (veh/h)                    |  | 40   |  |  |  |  |  |  |  |  |  |  |  |      |  | 30   |
| Capacity, c (veh/h)                     |  | 1071 |  |  |  |  |  |  |  |  |  |  |  |      |  | 738  |
| v/c Ratio                               |  | 0.04 |  |  |  |  |  |  |  |  |  |  |  |      |  | 0.04 |
| 95% Queue Length, Q <sub>95</sub> (veh) |  | 0.1  |  |  |  |  |  |  |  |  |  |  |  |      |  | 0.1  |
| Control Delay (s/veh)                   |  | 8.5  |  |  |  |  |  |  |  |  |  |  |  |      |  | 10.1 |
| Level of Service (LOS)                  |  | A    |  |  |  |  |  |  |  |  |  |  |  |      |  | B    |
| Approach Delay (s/veh)                  |  | 0.5  |  |  |  |  |  |  |  |  |  |  |  | 10.1 |  |      |
| Approach LOS                            |  |      |  |  |  |  |  |  |  |  |  |  |  | B    |  |      |

# HCS7 All-Way Stop Control Report

| General Information        |                      | Site Information   |                     |
|----------------------------|----------------------|--------------------|---------------------|
| Analyst                    | Chris Hawkins        | Intersection       | Polaris/Old Mill Rd |
| Agency/Co.                 | LSC                  | Jurisdiction       |                     |
| Date Performed             | 3/22/2019            | East/West Street   | Polaris             |
| Analysis Year              | 2019                 | North/South Street | Old Mill            |
| Analysis Time Period (hrs) | 0.25                 | Peak Hour Factor   | 0.92                |
| Time Analyzed              |                      |                    |                     |
| Project Description        | Tahoe XC Existing NP |                    |                     |

## Lanes



## Vehicle Volume and Adjustments

| Approach               | Eastbound |    |    | Westbound |    |    | Northbound |    |    | Southbound |    |    |
|------------------------|-----------|----|----|-----------|----|----|------------|----|----|------------|----|----|
|                        | L         | T  | R  | L         | T  | R  | L          | T  | R  | L          | T  | R  |
| Movement               |           |    |    |           |    |    |            |    |    |            |    |    |
| Volume                 |           | 9  | 17 | 3         | 9  |    | 12         |    | 6  |            |    |    |
| % Thrus in Shared Lane |           |    |    |           |    |    |            |    |    |            |    |    |
| Lane                   | L1        | L2 | L3 | L1        | L2 | L3 | L1         | L2 | L3 | L1         | L2 | L3 |
| Configuration          | TR        |    |    | LT        |    |    | LR         |    |    |            |    |    |
| Flow Rate, v (veh/h)   | 28        |    |    | 13        |    |    | 20         |    |    |            |    |    |
| Percent Heavy Vehicles | 3         |    |    | 3         |    |    | 3          |    |    |            |    |    |

## Departure Headway and Service Time

|                                   |       |  |  |       |  |  |       |  |  |  |  |  |
|-----------------------------------|-------|--|--|-------|--|--|-------|--|--|--|--|--|
| Initial Departure Headway, hd (s) | 3.20  |  |  | 3.20  |  |  | 3.20  |  |  |  |  |  |
| Initial Degree of Utilization, x  | 0.025 |  |  | 0.012 |  |  | 0.017 |  |  |  |  |  |
| Final Departure Headway, hd (s)   | 3.61  |  |  | 4.07  |  |  | 3.97  |  |  |  |  |  |
| Final Degree of Utilization, x    | 0.028 |  |  | 0.015 |  |  | 0.022 |  |  |  |  |  |
| Move-Up Time, m (s)               | 2.0   |  |  | 2.0   |  |  | 2.0   |  |  |  |  |  |
| Service Time, ts (s)              | 1.61  |  |  | 2.07  |  |  | 1.97  |  |  |  |  |  |

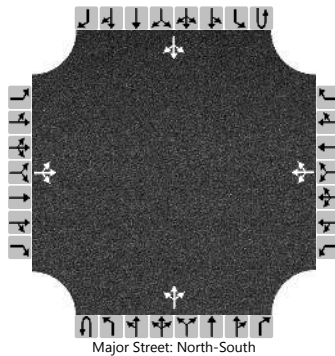
## Capacity, Delay and Level of Service

|   |     |  |  |     |  |  |     |  |  |  |  |  |
|---|-----|--|--|-----|--|--|-----|--|--|--|--|--|
| Flow Rate, v (veh/h)                    | 28  |  |  | 13  |  |  | 20  |  |  |  |  |  |
| Capacity                                | 996 |  |  | 885 |  |  | 908 |  |  |  |  |  |
| 95% Queue Length, Q <sub>95</sub> (veh) | 0.1 |  |  | 0.0 |  |  | 0.1 |  |  |  |  |  |
| Control Delay (s/veh)                   | 6.7 |  |  | 7.1 |  |  | 7.1 |  |  |  |  |  |
| Level of Service, LOS                   | A   |  |  | A   |  |  | A   |  |  |  |  |  |
| Approach Delay (s/veh)                  | 6.7 |  |  | 7.1 |  |  | 7.1 |  |  |  |  |  |
| Approach LOS                            | A   |  |  | A   |  |  | A   |  |  |  |  |  |
| Intersection Delay, s/veh   LOS         | 6.9 |  |  |     |  |  | A   |  |  |  |  |  |

# HCS7 Two-Way Stop-Control Report

| General Information      |                      |  |  | Site Information           |                    |  |  |
|--------------------------|----------------------|--|--|----------------------------|--------------------|--|--|
| Analyst                  | Chris Hawkins        |  |  | Intersection               | Village/Polaris Rd |  |  |
| Agency/Co.               | LSC                  |  |  | Jurisdiction               |                    |  |  |
| Date Performed           | 2/26/2019            |  |  | East/West Street           | Polaris rd         |  |  |
| Analysis Year            | 2019                 |  |  | North/South Street         | Village Rd         |  |  |
| Time Analyzed            | 2                    |  |  | Peak Hour Factor           | 0.92               |  |  |
| Intersection Orientation | North-South          |  |  | Analysis Time Period (hrs) | 0.25               |  |  |
| Project Description      | Tahoe XC Existing NP |  |  |                            |                    |  |  |

## Lanes



## Vehicle Volumes and Adjustments

| Approach                   | Eastbound |    |     |    | Westbound |   |     |   | Northbound |    |     |   | Southbound |   |     |   |
|----------------------------|-----------|----|-----|----|-----------|---|-----|---|------------|----|-----|---|------------|---|-----|---|
|                            | U         | L  | T   | R  | U         | L | T   | R | U          | L  | T   | R | U          | L | T   | R |
| Priority                   |           | 10 | 11  | 12 |           | 7 | 8   | 9 | 1U         | 1  | 2   | 3 | 4U         | 4 | 5   | 6 |
| Number of Lanes            |           | 0  | 1   | 0  |           | 0 | 1   | 0 | 0          | 0  | 1   | 0 | 0          | 0 | 1   | 0 |
| Configuration              |           |    | LTR |    |           |   | LTR |   |            |    | LTR |   |            |   | LTR |   |
| Volume (veh/h)             |           | 1  | 0   | 8  |           | 4 | 0   | 0 |            | 13 | 17  | 3 |            | 0 | 18  | 2 |
| Percent Heavy Vehicles (%) |           | 3  | 3   | 3  |           | 3 | 3   | 3 |            | 3  |     |   |            | 3 |     |   |
| Proportion Time Blocked    |           |    |     |    |           |   |     |   |            |    |     |   |            |   |     |   |
| Percent Grade (%)          | 0         |    |     |    | -5        |   |     |   |            |    |     |   |            |   |     |   |
| Right Turn Channelized     |           |    |     |    |           |   |     |   |            |    |     |   |            |   |     |   |
| Median Type   Storage      | Undivided |    |     |    |           |   |     |   |            |    |     |   |            |   |     |   |

## Critical and Follow-up Headways

|                              |  |      |      |      |  |      |      |      |  |      |  |  |  |      |  |  |
|------------------------------|--|------|------|------|--|------|------|------|--|------|--|--|--|------|--|--|
| Base Critical Headway (sec)  |  | 7.1  | 6.5  | 6.2  |  | 7.1  | 6.5  | 6.2  |  | 4.1  |  |  |  | 4.1  |  |  |
| Critical Headway (sec)       |  | 7.13 | 6.53 | 6.23 |  | 6.13 | 5.53 | 5.73 |  | 4.13 |  |  |  | 4.13 |  |  |
| Base Follow-Up Headway (sec) |  | 3.5  | 4.0  | 3.3  |  | 3.5  | 4.0  | 3.3  |  | 2.2  |  |  |  | 2.2  |  |  |
| Follow-Up Headway (sec)      |  | 3.53 | 4.03 | 3.33 |  | 3.53 | 4.03 | 3.33 |  | 2.23 |  |  |  | 2.23 |  |  |

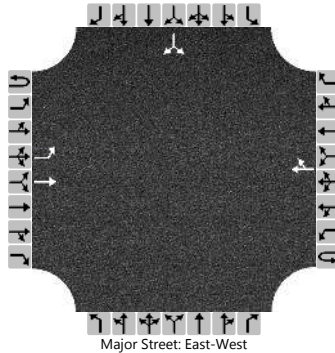
## Delay, Queue Length, and Level of Service

|   |     |  |      |  |     |  |      |  |     |      |  |  |     |  |      |  |
|---|-----|--|------|--|-----|--|------|--|-----|------|--|--|-----|--|------|--|
| Flow Rate, v (veh/h)                    |     |  | 10   |  |     |  | 4    |  |     | 14   |  |  |     |  | 0    |  |
| Capacity, c (veh/h)                     |     |  | 1036 |  |     |  | 920  |  |     | 1587 |  |  |     |  | 1587 |  |
| v/c Ratio                               |     |  | 0.01 |  |     |  | 0.00 |  |     | 0.01 |  |  |     |  | 0.00 |  |
| 95% Queue Length, Q <sub>95</sub> (veh) |     |  | 0.0  |  |     |  | 0.0  |  |     | 0.0  |  |  |     |  | 0.0  |  |
| Control Delay (s/veh)                   |     |  | 8.5  |  |     |  | 8.9  |  |     | 7.3  |  |  |     |  | 7.3  |  |
| Level of Service (LOS)                  |     |  | A    |  |     |  | A    |  |     | A    |  |  |     |  | A    |  |
| Approach Delay (s/veh)                  | 8.5 |  |      |  | 8.9 |  |      |  | 2.9 |      |  |  | 0.0 |  |      |  |
| Approach LOS                            | A   |  |      |  | A   |  |      |  |     |      |  |  |     |  |      |  |

# HCS7 Two-Way Stop-Control Report

| General Information      |                      |                            |            | Site Information |  |  |  |
|--------------------------|----------------------|----------------------------|------------|------------------|--|--|--|
| Analyst                  | Chris Hawkins        | Intersection               | SR28Fabian |                  |  |  |  |
| Agency/Co.               | LSC                  | Jurisdiction               |            |                  |  |  |  |
| Date Performed           | 2/26/2019            | East/West Street           | SR 28      |                  |  |  |  |
| Analysis Year            | 2019                 | North/South Street         | Fabian Way |                  |  |  |  |
| Time Analyzed            | 2                    | Peak Hour Factor           | 0.92       |                  |  |  |  |
| Intersection Orientation | East-West            | Analysis Time Period (hrs) | 0.25       |                  |  |  |  |
| Project Description      | Tahoe XC Existing NP |                            |            |                  |  |  |  |

## Lanes



## Vehicle Volumes and Adjustments

| Approach                   | Eastbound |    |     |   | Westbound |   |     |    | Northbound |   |   |   | Southbound |    |    |    |
|----------------------------|-----------|----|-----|---|-----------|---|-----|----|------------|---|---|---|------------|----|----|----|
|                            | U         | L  | T   | R | U         | L | T   | R  | U          | L | T | R | U          | L  | T  | R  |
| Movement                   | 1U        | 1  | 2   | 3 | 4U        | 4 | 5   | 6  |            | 7 | 8 | 9 |            | 10 | 11 | 12 |
| Priority                   |           |    |     |   |           |   |     |    |            |   |   |   |            |    |    |    |
| Number of Lanes            | 0         | 1  | 1   | 0 | 0         | 0 | 1   | 0  |            | 0 | 0 | 0 |            | 0  | 1  | 0  |
| Configuration              |           | L  | T   |   |           |   |     | TR |            |   |   |   |            |    | LR |    |
| Volume (veh/h)             |           | 51 | 360 |   |           |   | 255 | 66 |            |   |   |   |            | 86 |    | 38 |
| Percent Heavy Vehicles (%) |           | 3  |     |   |           |   |     |    |            |   |   |   |            | 3  |    | 3  |
| Proportion Time Blocked    |           |    |     |   |           |   |     |    |            |   |   |   |            |    |    |    |
| Percent Grade (%)          |           |    |     |   |           |   |     |    |            |   |   |   |            | -8 |    |    |
| Right Turn Channelized     |           |    |     |   |           |   |     |    |            |   |   |   |            |    |    |    |
| Median Type   Storage      |           |    |     |   | Left Only |   |     |    |            |   |   |   | 1          |    |    |    |

## Critical and Follow-up Headways

|                              |  |      |  |  |  |  |  |  |  |  |  |  |  |      |  |      |
|------------------------------|--|------|--|--|--|--|--|--|--|--|--|--|--|------|--|------|
| Base Critical Headway (sec)  |  | 4.1  |  |  |  |  |  |  |  |  |  |  |  | 6.1  |  | 4.9  |
| Critical Headway (sec)       |  | 4.13 |  |  |  |  |  |  |  |  |  |  |  | 3.83 |  | 4.13 |
| Base Follow-Up Headway (sec) |  | 2.2  |  |  |  |  |  |  |  |  |  |  |  | 3.5  |  | 3.3  |
| Follow-Up Headway (sec)      |  | 2.23 |  |  |  |  |  |  |  |  |  |  |  | 3.53 |  | 3.33 |

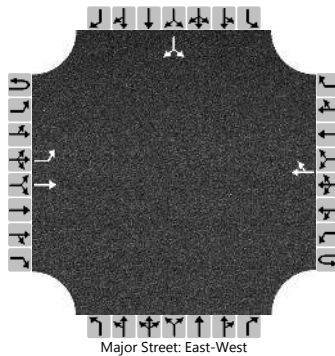
## Delay, Queue Length, and Level of Service

|   |  |      |  |  |  |  |  |  |  |  |  |  |   |     |  |      |  |
|---|--|------|--|--|--|--|--|--|--|--|--|--|---|-----|--|------|--|
| Flow Rate, v (veh/h)                    |  | 55   |  |  |  |  |  |  |  |  |  |  |   |     |  | 135  |  |
| Capacity, c (veh/h)                     |  | 1200 |  |  |  |  |  |  |  |  |  |  |   |     |  | 893  |  |
| v/c Ratio                               |  | 0.05 |  |  |  |  |  |  |  |  |  |  |   |     |  | 0.15 |  |
| 95% Queue Length, Q <sub>95</sub> (veh) |  | 0.1  |  |  |  |  |  |  |  |  |  |  |   |     |  | 0.5  |  |
| Control Delay (s/veh)                   |  | 8.1  |  |  |  |  |  |  |  |  |  |  |   |     |  | 9.7  |  |
| Level of Service (LOS)                  |  | A    |  |  |  |  |  |  |  |  |  |  |   |     |  | A    |  |
| Approach Delay (s/veh)                  |  | 1.0  |  |  |  |  |  |  |  |  |  |  |   | 9.7 |  |      |  |
| Approach LOS                            |  |      |  |  |  |  |  |  |  |  |  |  | A |     |  |      |  |

# HCS7 Two-Way Stop-Control Report

| General Information      |                             |  |  | Site Information           |                |  |  |
|--------------------------|-----------------------------|--|--|----------------------------|----------------|--|--|
| Analyst                  | Chris Hawkins               |  |  | Intersection               | Old Mill/SR 28 |  |  |
| Agency/Co.               | LSC                         |  |  | Jurisdiction               |                |  |  |
| Date Performed           | 2/27/2019                   |  |  | East/West Street           | SR28           |  |  |
| Analysis Year            | 2019                        |  |  | North/South Street         | Old Mill       |  |  |
| Time Analyzed            |                             |  |  | Peak Hour Factor           | 0.92           |  |  |
| Intersection Orientation | East-West                   |  |  | Analysis Time Period (hrs) | 0.25           |  |  |
| Project Description      | Tahoe XC Summer Existing NP |  |  |                            |                |  |  |

## Lanes



## Vehicle Volumes and Adjustments

| Approach                   | Eastbound |    |     |   | Westbound |   |     |    | Northbound |   |   |   | Southbound |     |    |    |
|----------------------------|-----------|----|-----|---|-----------|---|-----|----|------------|---|---|---|------------|-----|----|----|
|                            | U         | L  | T   | R | U         | L | T   | R  | U          | L | T | R | U          | L   | T  | R  |
| Movement                   | 1U        | 1  | 2   | 3 | 4U        | 4 | 5   | 6  |            | 7 | 8 | 9 |            | 10  | 11 | 12 |
| Priority                   |           |    |     |   |           |   |     |    |            |   |   |   |            |     |    |    |
| Number of Lanes            | 0         | 1  | 1   | 0 | 0         | 0 | 1   | 0  |            | 0 | 0 | 0 |            | 0   | 1  | 0  |
| Configuration              |           | L  | T   |   |           |   |     | TR |            |   |   |   |            |     | LR |    |
| Volume (veh/h)             |           | 40 | 312 |   |           |   | 300 | 7  |            |   |   |   |            | 2   |    | 44 |
| Percent Heavy Vehicles (%) |           | 3  |     |   |           |   |     |    |            |   |   |   |            | 3   |    | 3  |
| Proportion Time Blocked    |           |    |     |   |           |   |     |    |            |   |   |   |            |     |    |    |
| Percent Grade (%)          |           |    |     |   |           |   |     |    |            |   |   |   |            | -10 |    |    |
| Right Turn Channelized     |           |    |     |   |           |   |     |    |            |   |   |   |            |     |    |    |
| Median Type   Storage      | Undivided |    |     |   |           |   |     |    |            |   |   |   |            |     |    |    |

## Critical and Follow-up Headways

|                              |  |      |  |  |  |  |  |  |  |  |  |  |  |      |  |      |
|------------------------------|--|------|--|--|--|--|--|--|--|--|--|--|--|------|--|------|
| Base Critical Headway (sec)  |  | 4.1  |  |  |  |  |  |  |  |  |  |  |  | 7.1  |  | 6.2  |
| Critical Headway (sec)       |  | 4.13 |  |  |  |  |  |  |  |  |  |  |  | 4.43 |  | 5.23 |
| Base Follow-Up Headway (sec) |  | 2.2  |  |  |  |  |  |  |  |  |  |  |  | 3.5  |  | 3.3  |
| Follow-Up Headway (sec)      |  | 2.23 |  |  |  |  |  |  |  |  |  |  |  | 3.53 |  | 3.33 |

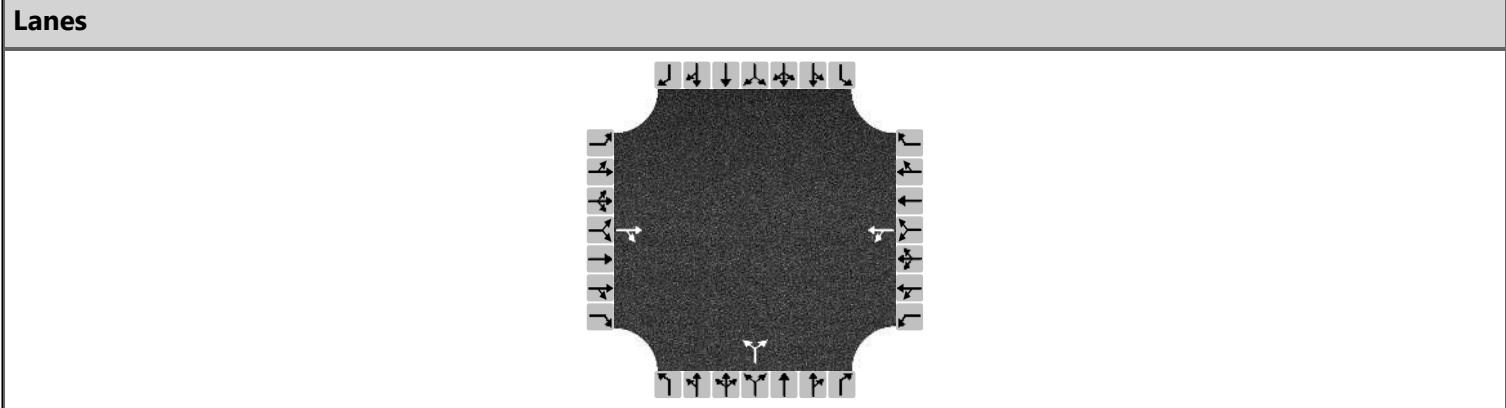
## Delay, Queue Length, and Level of Service

|   |  |      |  |  |  |  |  |  |  |  |  |  |  |     |  |      |  |
|---|--|------|--|--|--|--|--|--|--|--|--|--|--|-----|--|------|--|
| Flow Rate, v (veh/h)                    |  | 43   |  |  |  |  |  |  |  |  |  |  |  |     |  | 50   |  |
| Capacity, c (veh/h)                     |  | 1220 |  |  |  |  |  |  |  |  |  |  |  |     |  | 803  |  |
| v/c Ratio                               |  | 0.04 |  |  |  |  |  |  |  |  |  |  |  |     |  | 0.06 |  |
| 95% Queue Length, Q <sub>95</sub> (veh) |  | 0.1  |  |  |  |  |  |  |  |  |  |  |  |     |  | 0.2  |  |
| Control Delay (s/veh)                   |  | 8.1  |  |  |  |  |  |  |  |  |  |  |  |     |  | 9.8  |  |
| Level of Service (LOS)                  |  | A    |  |  |  |  |  |  |  |  |  |  |  |     |  | A    |  |
| Approach Delay (s/veh)                  |  | 0.9  |  |  |  |  |  |  |  |  |  |  |  | 9.8 |  |      |  |
| Approach LOS                            |  |      |  |  |  |  |  |  |  |  |  |  |  | A   |  |      |  |



# HCS7 All-Way Stop Control Report

| General Information        |                                | Site Information   |                     |
|----------------------------|--------------------------------|--------------------|---------------------|
| Analyst                    | Chris Hawkins                  | Intersection       | Polaris/Old Mill Rd |
| Agency/Co.                 | LSC                            | Jurisdiction       |                     |
| Date Performed             | 3/22/2019                      | East/West Street   | Polaris             |
| Analysis Year              | 2019                           | North/South Street | Old Mill            |
| Analysis Time Period (hrs) | 0.25                           | Peak Hour Factor   | 0.92                |
| Time Analyzed              |                                |                    |                     |
| Project Description        | Tahoe XC Winter PM Existing NP |                    |                     |



**Vehicle Volume and Adjustments**

| Approach               | Eastbound |     |    | Westbound |    |    | Northbound |    |    | Southbound |    |    |
|------------------------|-----------|-----|----|-----------|----|----|------------|----|----|------------|----|----|
|                        | L         | T   | R  | L         | T  | R  | L          | T  | R  | L          | T  | R  |
| Movement               |           |     |    |           |    |    |            |    |    |            |    |    |
| Volume                 |           | 119 | 78 | 3         | 63 |    | 44         |    | 4  |            |    |    |
| % Thrus in Shared Lane |           |     |    |           |    |    |            |    |    |            |    |    |
| Lane                   | L1        | L2  | L3 | L1        | L2 | L3 | L1         | L2 | L3 | L1         | L2 | L3 |
| Configuration          | TR        |     |    | LT        |    |    | LR         |    |    |            |    |    |
| Flow Rate, v (veh/h)   | 214       |     |    | 72        |    |    | 52         |    |    |            |    |    |
| Percent Heavy Vehicles | 3         |     |    | 3         |    |    | 3          |    |    |            |    |    |

**Departure Headway and Service Time**

|                                   |       |  |  |       |  |  |       |  |  |  |  |  |
|-----------------------------------|-------|--|--|-------|--|--|-------|--|--|--|--|--|
| Initial Departure Headway, hd (s) | 3.20  |  |  | 3.20  |  |  | 3.20  |  |  |  |  |  |
| Initial Degree of Utilization, x  | 0.190 |  |  | 0.064 |  |  | 0.046 |  |  |  |  |  |
| Final Departure Headway, hd (s)   | 3.91  |  |  | 4.29  |  |  | 4.67  |  |  |  |  |  |
| Final Degree of Utilization, x    | 0.233 |  |  | 0.085 |  |  | 0.068 |  |  |  |  |  |
| Move-Up Time, m (s)               | 2.0   |  |  | 2.0   |  |  | 2.0   |  |  |  |  |  |
| Service Time, ts (s)              | 1.91  |  |  | 2.29  |  |  | 2.67  |  |  |  |  |  |

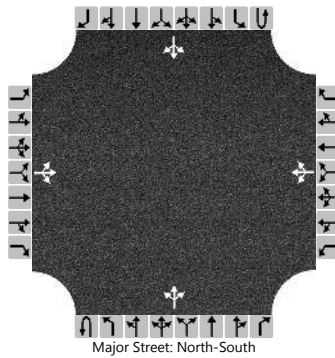
**Capacity, Delay and Level of Service**

|   |     |  |  |     |  |  |     |  |  |  |  |  |
|---|-----|--|--|-----|--|--|-----|--|--|--|--|--|
| Flow Rate, v (veh/h)                    | 214 |  |  | 72  |  |  | 52  |  |  |  |  |  |
| Capacity                                | 920 |  |  | 840 |  |  | 770 |  |  |  |  |  |
| 95% Queue Length, Q <sub>95</sub> (veh) | 0.9 |  |  | 0.3 |  |  | 0.2 |  |  |  |  |  |
| Control Delay (s/veh)                   | 8.1 |  |  | 7.7 |  |  | 8.0 |  |  |  |  |  |
| Level of Service, LOS                   | A   |  |  | A   |  |  | A   |  |  |  |  |  |
| Approach Delay (s/veh)                  | 8.1 |  |  | 7.7 |  |  | 8.0 |  |  |  |  |  |
| Approach LOS                            | A   |  |  | A   |  |  | A   |  |  |  |  |  |
| Intersection Delay, s/veh   LOS         | 8.0 |  |  |     |  |  | A   |  |  |  |  |  |

# HCS7 Two-Way Stop-Control Report

| General Information      |                            |  |  | Site Information           |                    |  |  |
|--------------------------|----------------------------|--|--|----------------------------|--------------------|--|--|
| Analyst                  | Chris Hawkins              |  |  | Intersection               | Village/Polaris Rd |  |  |
| Agency/Co.               | LSC                        |  |  | Jurisdiction               |                    |  |  |
| Date Performed           | 2/26/2019                  |  |  | East/West Street           | Polaris rd         |  |  |
| Analysis Year            | 2019                       |  |  | North/South Street         | Village Rd         |  |  |
| Time Analyzed            | PM                         |  |  | Peak Hour Factor           | 0.92               |  |  |
| Intersection Orientation | North-South                |  |  | Analysis Time Period (hrs) | 0.25               |  |  |
| Project Description      | Tahoe XC - Existing Winter |  |  |                            |                    |  |  |

## Lanes



## Vehicle Volumes and Adjustments

| Approach                   | Eastbound |    |     |    | Westbound |   |     |   | Northbound |    |     |   | Southbound |   |     |   |
|----------------------------|-----------|----|-----|----|-----------|---|-----|---|------------|----|-----|---|------------|---|-----|---|
|                            | U         | L  | T   | R  | U         | L | T   | R | U          | L  | T   | R | U          | L | T   | R |
| Priority                   |           | 10 | 11  | 12 |           | 7 | 8   | 9 | 1U         | 1  | 2   | 3 | 4U         | 4 | 5   | 6 |
| Number of Lanes            |           | 0  | 1   | 0  |           | 0 | 1   | 0 | 0          | 0  | 1   | 0 | 0          | 0 | 1   | 0 |
| Configuration              |           |    | LTR |    |           |   | LTR |   |            |    | LTR |   |            |   | LTR |   |
| Volume (veh/h)             |           | 4  | 0   | 98 |           | 0 | 0   | 0 |            | 55 | 37  | 0 |            | 0 | 23  | 2 |
| Percent Heavy Vehicles (%) |           | 3  | 3   | 3  |           | 3 | 3   | 3 |            | 3  |     |   |            | 3 |     |   |
| Proportion Time Blocked    |           |    |     |    |           |   |     |   |            |    |     |   |            |   |     |   |
| Percent Grade (%)          | 0         |    |     |    | -5        |   |     |   |            |    |     |   |            |   |     |   |
| Right Turn Channelized     |           |    |     |    |           |   |     |   |            |    |     |   |            |   |     |   |
| Median Type   Storage      | Undivided |    |     |    |           |   |     |   |            |    |     |   |            |   |     |   |

## Critical and Follow-up Headways

|                              |  |      |      |      |  |      |      |      |  |      |  |  |  |      |  |  |
|------------------------------|--|------|------|------|--|------|------|------|--|------|--|--|--|------|--|--|
| Base Critical Headway (sec)  |  | 7.1  | 6.5  | 6.2  |  | 7.1  | 6.5  | 6.2  |  | 4.1  |  |  |  | 4.1  |  |  |
| Critical Headway (sec)       |  | 7.13 | 6.53 | 6.23 |  | 6.13 | 5.53 | 5.73 |  | 4.13 |  |  |  | 4.13 |  |  |
| Base Follow-Up Headway (sec) |  | 3.5  | 4.0  | 3.3  |  | 3.5  | 4.0  | 3.3  |  | 2.2  |  |  |  | 2.2  |  |  |
| Follow-Up Headway (sec)      |  | 3.53 | 4.03 | 3.33 |  | 3.53 | 4.03 | 3.33 |  | 2.23 |  |  |  | 2.23 |  |  |

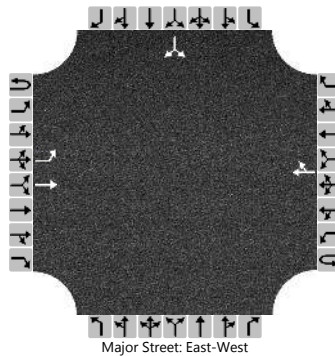
## Delay, Queue Length, and Level of Service

|   |     |  |      |  |  |  |   |  |     |      |  |  |     |      |  |  |
|---|-----|--|------|--|--|--|---|--|-----|------|--|--|-----|------|--|--|
| Flow Rate, v (veh/h)                    |     |  | 111  |  |  |  | 0 |  |     | 60   |  |  |     | 0    |  |  |
| Capacity, c (veh/h)                     |     |  | 1031 |  |  |  |   |  |     | 1580 |  |  |     | 1563 |  |  |
| v/c Ratio                               |     |  | 0.11 |  |  |  |   |  |     | 0.04 |  |  |     | 0.00 |  |  |
| 95% Queue Length, Q <sub>95</sub> (veh) |     |  | 0.4  |  |  |  |   |  |     | 0.1  |  |  |     | 0.0  |  |  |
| Control Delay (s/veh)                   |     |  | 8.9  |  |  |  |   |  |     | 7.4  |  |  |     | 7.3  |  |  |
| Level of Service (LOS)                  |     |  | A    |  |  |  |   |  |     | A    |  |  |     | A    |  |  |
| Approach Delay (s/veh)                  | 8.9 |  |      |  |  |  |   |  | 4.5 |      |  |  | 0.0 |      |  |  |
| Approach LOS                            | A   |  |      |  |  |  |   |  |     |      |  |  |     |      |  |  |

# HCS7 Two-Way Stop-Control Report

| General Information      |                      |  |  | Site Information           |            |  |  |
|--------------------------|----------------------|--|--|----------------------------|------------|--|--|
| Analyst                  | Chris Hawkins        |  |  | Intersection               | SR28Fabian |  |  |
| Agency/Co.               | LSC                  |  |  | Jurisdiction               |            |  |  |
| Date Performed           | 2/26/2019            |  |  | East/West Street           | SR 28      |  |  |
| Analysis Year            | 2019                 |  |  | North/South Street         | Fabian Way |  |  |
| Time Analyzed            | 2                    |  |  | Peak Hour Factor           | 0.92       |  |  |
| Intersection Orientation | East-West            |  |  | Analysis Time Period (hrs) | 0.25       |  |  |
| Project Description      | Tahoe XC Existing NP |  |  |                            |            |  |  |

## Lanes



## Vehicle Volumes and Adjustments

| Approach                   | Eastbound |    |     |   | Westbound |   |     |    | Northbound |   |   |   | Southbound |    |    |    |
|----------------------------|-----------|----|-----|---|-----------|---|-----|----|------------|---|---|---|------------|----|----|----|
|                            | U         | L  | T   | R | U         | L | T   | R  | U          | L | T | R | U          | L  | T  | R  |
| Movement                   | 1U        | 1  | 2   | 3 | 4U        | 4 | 5   | 6  |            | 7 | 8 | 9 |            | 10 | 11 | 12 |
| Priority                   |           |    |     |   |           |   |     |    |            |   |   |   |            |    |    |    |
| Number of Lanes            | 0         | 1  | 1   | 0 | 0         | 0 | 1   | 0  |            | 0 | 0 | 0 |            | 0  | 1  | 0  |
| Configuration              |           | L  | T   |   |           |   |     | TR |            |   |   |   |            |    | LR |    |
| Volume (veh/h)             |           | 37 | 635 |   |           |   | 419 | 52 |            |   |   |   |            | 51 |    | 43 |
| Percent Heavy Vehicles (%) |           | 3  |     |   |           |   |     |    |            |   |   |   |            | 3  |    | 3  |
| Proportion Time Blocked    |           |    |     |   |           |   |     |    |            |   |   |   |            |    |    |    |
| Percent Grade (%)          |           |    |     |   |           |   |     |    |            |   |   |   |            |    |    | -8 |
| Right Turn Channelized     |           |    |     |   |           |   |     |    |            |   |   |   |            |    |    |    |
| Median Type   Storage      |           |    |     |   | Left Only |   |     |    |            |   |   |   | 1          |    |    |    |

## Critical and Follow-up Headways

|                              |  |      |  |  |  |  |  |  |  |  |  |  |  |      |  |      |
|------------------------------|--|------|--|--|--|--|--|--|--|--|--|--|--|------|--|------|
| Base Critical Headway (sec)  |  | 4.1  |  |  |  |  |  |  |  |  |  |  |  | 7.1  |  | 6.2  |
| Critical Headway (sec)       |  | 4.13 |  |  |  |  |  |  |  |  |  |  |  | 4.83 |  | 5.43 |
| Base Follow-Up Headway (sec) |  | 2.2  |  |  |  |  |  |  |  |  |  |  |  | 3.5  |  | 3.3  |
| Follow-Up Headway (sec)      |  | 2.23 |  |  |  |  |  |  |  |  |  |  |  | 3.53 |  | 3.33 |

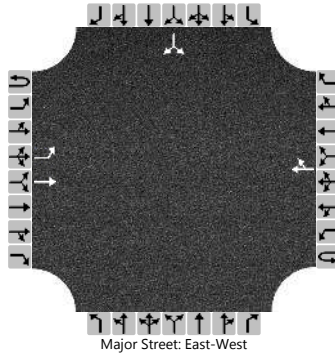
## Delay, Queue Length, and Level of Service

|   |  |      |  |  |  |  |  |  |  |  |  |  |  |     |  |      |  |
|---|--|------|--|--|--|--|--|--|--|--|--|--|--|-----|--|------|--|
| Flow Rate, v (veh/h)                    |  | 40   |  |  |  |  |  |  |  |  |  |  |  |     |  | 102  |  |
| Capacity, c (veh/h)                     |  | 1044 |  |  |  |  |  |  |  |  |  |  |  |     |  | 833  |  |
| v/c Ratio                               |  | 0.04 |  |  |  |  |  |  |  |  |  |  |  |     |  | 0.12 |  |
| 95% Queue Length, Q <sub>95</sub> (veh) |  | 0.1  |  |  |  |  |  |  |  |  |  |  |  |     |  | 0.4  |  |
| Control Delay (s/veh)                   |  | 8.6  |  |  |  |  |  |  |  |  |  |  |  |     |  | 9.9  |  |
| Level of Service (LOS)                  |  | A    |  |  |  |  |  |  |  |  |  |  |  |     |  | A    |  |
| Approach Delay (s/veh)                  |  | 0.5  |  |  |  |  |  |  |  |  |  |  |  | 9.9 |  |      |  |
| Approach LOS                            |  |      |  |  |  |  |  |  |  |  |  |  |  | A   |  |      |  |

# HCS7 Two-Way Stop-Control Report

| General Information      |                             |  |  | Site Information           |                |  |  |
|--------------------------|-----------------------------|--|--|----------------------------|----------------|--|--|
| Analyst                  | Chris Hawkins               |  |  | Intersection               | Old Mill/SR 28 |  |  |
| Agency/Co.               | LSC                         |  |  | Jurisdiction               |                |  |  |
| Date Performed           | 2/27/2019                   |  |  | East/West Street           | SR28           |  |  |
| Analysis Year            | 2019                        |  |  | North/South Street         | Old Mill       |  |  |
| Time Analyzed            |                             |  |  | Peak Hour Factor           | 0.92           |  |  |
| Intersection Orientation | East-West                   |  |  | Analysis Time Period (hrs) | 0.25           |  |  |
| Project Description      | Tahoe XC Summer Existing NP |  |  |                            |                |  |  |

## Lanes



## Vehicle Volumes and Adjustments

| Approach                   | Eastbound |    |     |   | Westbound |   |     |    | Northbound |   |   |   | Southbound |    |    |     |
|----------------------------|-----------|----|-----|---|-----------|---|-----|----|------------|---|---|---|------------|----|----|-----|
|                            | U         | L  | T   | R | U         | L | T   | R  | U          | L | T | R | U          | L  | T  | R   |
| Movement                   | 1U        | 1  | 2   | 3 | 4U        | 4 | 5   | 6  |            | 7 | 8 | 9 |            | 10 | 11 | 12  |
| Priority                   |           |    |     |   |           |   |     |    |            |   |   |   |            |    |    |     |
| Number of Lanes            | 0         | 1  | 1   | 0 | 0         | 0 | 1   | 0  |            | 0 | 0 | 0 |            | 0  | 1  | 0   |
| Configuration              |           | L  | T   |   |           |   |     | TR |            |   |   |   |            |    | LR |     |
| Volume (veh/h)             |           | 23 | 649 |   |           |   | 464 | 2  |            |   |   |   |            | 4  |    | 26  |
| Percent Heavy Vehicles (%) |           | 3  |     |   |           |   |     |    |            |   |   |   |            | 3  |    | 3   |
| Proportion Time Blocked    |           |    |     |   |           |   |     |    |            |   |   |   |            |    |    |     |
| Percent Grade (%)          |           |    |     |   |           |   |     |    |            |   |   |   |            |    |    | -10 |
| Right Turn Channelized     |           |    |     |   |           |   |     |    |            |   |   |   |            |    |    |     |
| Median Type   Storage      | Undivided |    |     |   |           |   |     |    |            |   |   |   |            |    |    |     |

## Critical and Follow-up Headways

|                              |  |      |  |  |  |  |  |  |  |  |  |  |  |      |  |      |
|------------------------------|--|------|--|--|--|--|--|--|--|--|--|--|--|------|--|------|
| Base Critical Headway (sec)  |  | 4.1  |  |  |  |  |  |  |  |  |  |  |  | 7.1  |  | 6.2  |
| Critical Headway (sec)       |  | 4.13 |  |  |  |  |  |  |  |  |  |  |  | 4.43 |  | 5.23 |
| Base Follow-Up Headway (sec) |  | 2.2  |  |  |  |  |  |  |  |  |  |  |  | 3.5  |  | 3.3  |
| Follow-Up Headway (sec)      |  | 2.23 |  |  |  |  |  |  |  |  |  |  |  | 3.53 |  | 3.33 |

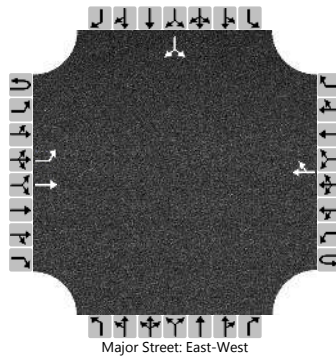
## Delay, Queue Length, and Level of Service

|   |  |      |  |  |  |  |  |  |  |  |  |  |  |      |  |      |  |
|---|--|------|--|--|--|--|--|--|--|--|--|--|--|------|--|------|--|
| Flow Rate, v (veh/h)                    |  | 25   |  |  |  |  |  |  |  |  |  |  |  |      |  | 33   |  |
| Capacity, c (veh/h)                     |  | 1053 |  |  |  |  |  |  |  |  |  |  |  |      |  | 741  |  |
| v/c Ratio                               |  | 0.02 |  |  |  |  |  |  |  |  |  |  |  |      |  | 0.04 |  |
| 95% Queue Length, Q <sub>95</sub> (veh) |  | 0.1  |  |  |  |  |  |  |  |  |  |  |  |      |  | 0.1  |  |
| Control Delay (s/veh)                   |  | 8.5  |  |  |  |  |  |  |  |  |  |  |  |      |  | 10.1 |  |
| Level of Service (LOS)                  |  | A    |  |  |  |  |  |  |  |  |  |  |  |      |  | B    |  |
| Approach Delay (s/veh)                  |  | 0.3  |  |  |  |  |  |  |  |  |  |  |  | 10.1 |  |      |  |
| Approach LOS                            |  |      |  |  |  |  |  |  |  |  |  |  |  | B    |  |      |  |

# HCS7 Two-Way Stop-Control Report

| General Information      |                             |  |  | Site Information           |            |  |  |
|--------------------------|-----------------------------|--|--|----------------------------|------------|--|--|
| Analyst                  | Chris Hawkins               |  |  | Intersection               | SR28Fabian |  |  |
| Agency/Co.               | LSC                         |  |  | Jurisdiction               |            |  |  |
| Date Performed           | 2/26/2019                   |  |  | East/West Street           | SR 28      |  |  |
| Analysis Year            | 2018                        |  |  | North/South Street         | Fabian Way |  |  |
| Time Analyzed            | 2                           |  |  | Peak Hour Factor           | 0.92       |  |  |
| Intersection Orientation | East-West                   |  |  | Analysis Time Period (hrs) | 0.25       |  |  |
| Project Description      | Tahoe XC Summer Existing PP |  |  |                            |            |  |  |

## Lanes



## Vehicle Volumes and Adjustments

| Approach                   | Eastbound |    |     |   | Westbound |   |     |    | Northbound |   |   |   | Southbound |    |    |    |
|----------------------------|-----------|----|-----|---|-----------|---|-----|----|------------|---|---|---|------------|----|----|----|
|                            | U         | L  | T   | R | U         | L | T   | R  | U          | L | T | R | U          | L  | T  | R  |
| Movement                   | 1U        | 1  | 2   | 3 | 4U        | 4 | 5   | 6  |            | 7 | 8 | 9 |            | 10 | 11 | 12 |
| Priority                   |           |    |     |   |           |   |     |    |            |   |   |   |            |    |    |    |
| Number of Lanes            | 0         | 1  | 1   | 0 | 0         | 0 | 1   | 0  |            | 0 | 0 | 0 |            | 0  | 1  | 0  |
| Configuration              |           | L  | T   |   |           |   |     | TR |            |   |   |   |            |    | LR |    |
| Volume (veh/h)             |           | 22 | 661 |   |           |   | 453 | 54 |            |   |   |   |            | 48 |    | 24 |
| Percent Heavy Vehicles (%) |           | 3  |     |   |           |   |     |    |            |   |   |   |            | 3  |    | 3  |
| Proportion Time Blocked    |           |    |     |   |           |   |     |    |            |   |   |   |            |    |    |    |
| Percent Grade (%)          |           |    |     |   |           |   |     |    |            |   |   |   |            | -8 |    |    |
| Right Turn Channelized     |           |    |     |   |           |   |     |    |            |   |   |   |            |    |    |    |
| Median Type   Storage      |           |    |     |   | Left Only |   |     |    |            |   |   |   | 1          |    |    |    |

## Critical and Follow-up Headways

|                              |  |      |  |  |  |  |  |  |  |  |  |  |  |      |  |      |
|------------------------------|--|------|--|--|--|--|--|--|--|--|--|--|--|------|--|------|
| Base Critical Headway (sec)  |  | 4.1  |  |  |  |  |  |  |  |  |  |  |  | 7.1  |  | 6.2  |
| Critical Headway (sec)       |  | 4.13 |  |  |  |  |  |  |  |  |  |  |  | 4.83 |  | 5.43 |
| Base Follow-Up Headway (sec) |  | 2.2  |  |  |  |  |  |  |  |  |  |  |  | 3.5  |  | 3.3  |
| Follow-Up Headway (sec)      |  | 2.23 |  |  |  |  |  |  |  |  |  |  |  | 3.53 |  | 3.33 |

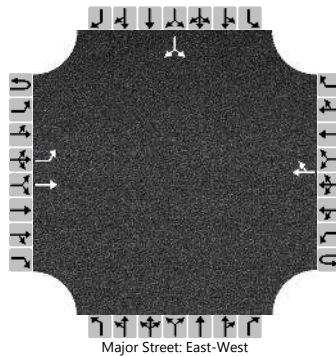
## Delay, Queue Length, and Level of Service

|   |  |      |  |  |  |  |  |  |  |  |  |  |   |      |  |      |  |
|---|--|------|--|--|--|--|--|--|--|--|--|--|---|------|--|------|--|
| Flow Rate, v (veh/h)                    |  | 24   |  |  |  |  |  |  |  |  |  |  |   |      |  | 78   |  |
| Capacity, c (veh/h)                     |  | 1010 |  |  |  |  |  |  |  |  |  |  |   |      |  | 676  |  |
| v/c Ratio                               |  | 0.02 |  |  |  |  |  |  |  |  |  |  |   |      |  | 0.12 |  |
| 95% Queue Length, Q <sub>95</sub> (veh) |  | 0.1  |  |  |  |  |  |  |  |  |  |  |   |      |  | 0.4  |  |
| Control Delay (s/veh)                   |  | 8.7  |  |  |  |  |  |  |  |  |  |  |   |      |  | 11.0 |  |
| Level of Service (LOS)                  |  | A    |  |  |  |  |  |  |  |  |  |  |   |      |  | B    |  |
| Approach Delay (s/veh)                  |  | 0.3  |  |  |  |  |  |  |  |  |  |  |   | 11.0 |  |      |  |
| Approach LOS                            |  |      |  |  |  |  |  |  |  |  |  |  | B |      |  |      |  |

# HCS7 Two-Way Stop-Control Report

| General Information      |                             |  |  | Site Information           |                |  |  |
|--------------------------|-----------------------------|--|--|----------------------------|----------------|--|--|
| Analyst                  | Chris Hawkins               |  |  | Intersection               | Old Mill/SR 28 |  |  |
| Agency/Co.               | LSC                         |  |  | Jurisdiction               |                |  |  |
| Date Performed           | 2/27/2019                   |  |  | East/West Street           | SR28           |  |  |
| Analysis Year            | 2019                        |  |  | North/South Street         | Old Mill       |  |  |
| Time Analyzed            |                             |  |  | Peak Hour Factor           | 0.92           |  |  |
| Intersection Orientation | East-West                   |  |  | Analysis Time Period (hrs) | 0.25           |  |  |
| Project Description      | Tahoe XC Summer Existing PP |  |  |                            |                |  |  |

## Lanes



## Vehicle Volumes and Adjustments

| Approach                   | Eastbound |    |     |   | Westbound |   |     |    | Northbound |   |   |   | Southbound |    |    |     |
|----------------------------|-----------|----|-----|---|-----------|---|-----|----|------------|---|---|---|------------|----|----|-----|
|                            | U         | L  | T   | R | U         | L | T   | R  | U          | L | T | R | U          | L  | T  | R   |
| Movement                   | 1U        | 1  | 2   | 3 | 4U        | 4 | 5   | 6  |            | 7 | 8 | 9 |            | 10 | 11 | 12  |
| Priority                   |           |    |     |   |           |   |     |    |            |   |   |   |            |    |    |     |
| Number of Lanes            | 0         | 1  | 1   | 0 | 0         | 0 | 1   | 0  |            | 0 | 0 | 0 |            | 0  | 1  | 0   |
| Configuration              |           | L  | T   |   |           |   |     | TR |            |   |   |   |            |    | LR |     |
| Volume (veh/h)             |           | 79 | 646 |   |           |   | 433 | 11 |            |   |   |   |            | 3  |    | 55  |
| Percent Heavy Vehicles (%) |           | 3  |     |   |           |   |     |    |            |   |   |   |            | 3  |    | 3   |
| Proportion Time Blocked    |           |    |     |   |           |   |     |    |            |   |   |   |            |    |    |     |
| Percent Grade (%)          |           |    |     |   |           |   |     |    |            |   |   |   |            |    |    | -10 |
| Right Turn Channelized     |           |    |     |   |           |   |     |    |            |   |   |   |            |    |    |     |
| Median Type   Storage      | Undivided |    |     |   |           |   |     |    |            |   |   |   |            |    |    |     |

## Critical and Follow-up Headways

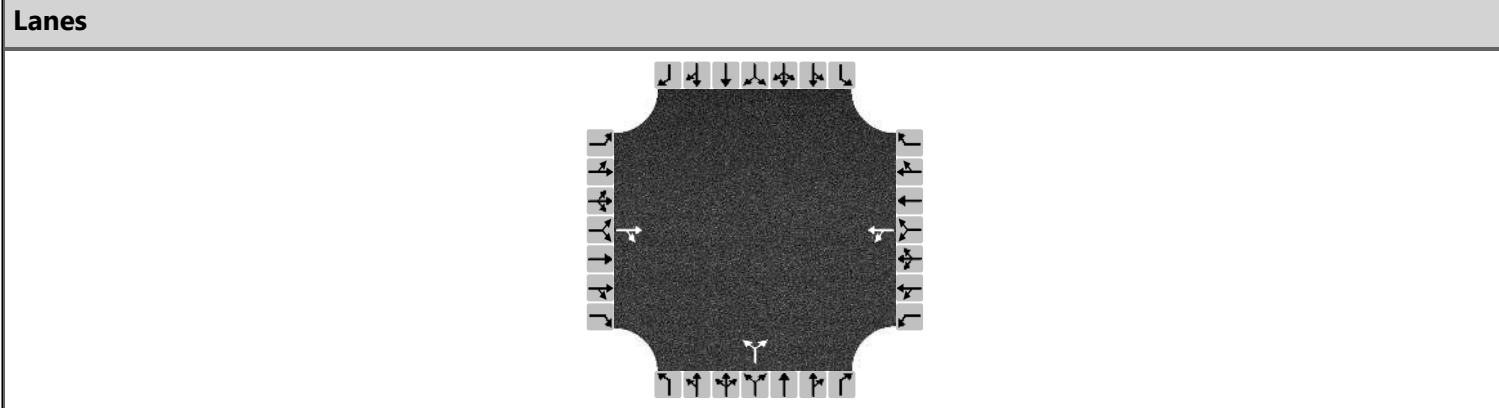
|                              |  |      |  |  |  |  |  |  |  |  |  |  |  |      |  |      |
|------------------------------|--|------|--|--|--|--|--|--|--|--|--|--|--|------|--|------|
| Base Critical Headway (sec)  |  | 4.1  |  |  |  |  |  |  |  |  |  |  |  | 7.1  |  | 6.2  |
| Critical Headway (sec)       |  | 4.13 |  |  |  |  |  |  |  |  |  |  |  | 4.43 |  | 5.23 |
| Base Follow-Up Headway (sec) |  | 2.2  |  |  |  |  |  |  |  |  |  |  |  | 3.5  |  | 3.3  |
| Follow-Up Headway (sec)      |  | 2.23 |  |  |  |  |  |  |  |  |  |  |  | 3.53 |  | 3.33 |

## Delay, Queue Length, and Level of Service

|   |  |      |  |  |  |  |  |  |  |  |  |  |  |      |  |      |  |
|---|--|------|--|--|--|--|--|--|--|--|--|--|--|------|--|------|--|
| Flow Rate, v (veh/h)                    |  | 86   |  |  |  |  |  |  |  |  |  |  |  |      |  | 63   |  |
| Capacity, c (veh/h)                     |  | 1075 |  |  |  |  |  |  |  |  |  |  |  |      |  | 698  |  |
| v/c Ratio                               |  | 0.08 |  |  |  |  |  |  |  |  |  |  |  |      |  | 0.09 |  |
| 95% Queue Length, Q <sub>95</sub> (veh) |  | 0.3  |  |  |  |  |  |  |  |  |  |  |  |      |  | 0.3  |  |
| Control Delay (s/veh)                   |  | 8.6  |  |  |  |  |  |  |  |  |  |  |  |      |  | 10.7 |  |
| Level of Service (LOS)                  |  | A    |  |  |  |  |  |  |  |  |  |  |  |      |  | B    |  |
| Approach Delay (s/veh)                  |  | 0.9  |  |  |  |  |  |  |  |  |  |  |  | 10.7 |  |      |  |
| Approach LOS                            |  |      |  |  |  |  |  |  |  |  |  |  |  | B    |  |      |  |

# HCS7 All-Way Stop Control Report

| General Information        |                             | Site Information   |                     |
|----------------------------|-----------------------------|--------------------|---------------------|
| Analyst                    | Chris Hawkins               | Intersection       | Polaris/Old Mill Rd |
| Agency/Co.                 | LSC                         | Jurisdiction       |                     |
| Date Performed             | 3/22/2019                   | East/West Street   | Polaris             |
| Analysis Year              | 2019                        | North/South Street | Old Mill            |
| Analysis Time Period (hrs) | 0.25                        | Peak Hour Factor   | 0.92                |
| Time Analyzed              |                             |                    |                     |
| Project Description        | Tahoe XC Summer Existing PP |                    |                     |



**Vehicle Volume and Adjustments**

| Approach               | Eastbound |    |    | Westbound |    |    | Northbound |    |    | Southbound |    |    |
|------------------------|-----------|----|----|-----------|----|----|------------|----|----|------------|----|----|
|                        | L         | T  | R  | L         | T  | R  | L          | T  | R  | L          | T  | R  |
| Movement               |           |    |    |           |    |    |            |    |    |            |    |    |
| Volume                 |           | 33 | 47 | 3         | 46 |    | 54         |    | 6  |            |    |    |
| % Thrus in Shared Lane |           |    |    |           |    |    |            |    |    |            |    |    |
| Lane                   | L1        | L2 | L3 | L1        | L2 | L3 | L1         | L2 | L3 | L1         | L2 | L3 |
| Configuration          | TR        |    |    | LT        |    |    | LR         |    |    |            |    |    |
| Flow Rate, v (veh/h)   | 87        |    |    | 53        |    |    | 65         |    |    |            |    |    |
| Percent Heavy Vehicles | 3         |    |    | 3         |    |    | 3          |    |    |            |    |    |

**Departure Headway and Service Time**

|                                   |       |  |  |       |  |  |       |  |  |  |  |  |
|-----------------------------------|-------|--|--|-------|--|--|-------|--|--|--|--|--|
| Initial Departure Headway, hd (s) | 3.20  |  |  | 3.20  |  |  | 3.20  |  |  |  |  |  |
| Initial Degree of Utilization, x  | 0.077 |  |  | 0.047 |  |  | 0.058 |  |  |  |  |  |
| Final Departure Headway, hd (s)   | 3.80  |  |  | 4.19  |  |  | 4.36  |  |  |  |  |  |
| Final Degree of Utilization, x    | 0.092 |  |  | 0.062 |  |  | 0.079 |  |  |  |  |  |
| Move-Up Time, m (s)               | 2.0   |  |  | 2.0   |  |  | 2.0   |  |  |  |  |  |
| Service Time, ts (s)              | 1.80  |  |  | 2.19  |  |  | 2.36  |  |  |  |  |  |

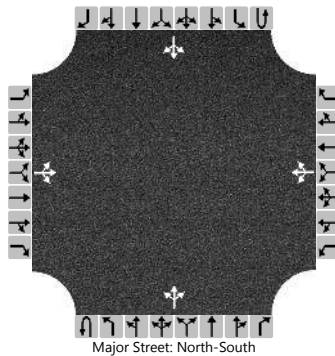
**Capacity, Delay and Level of Service**

|   |     |  |  |     |  |  |     |  |  |  |  |  |
|---|-----|--|--|-----|--|--|-----|--|--|--|--|--|
| Flow Rate, v (veh/h)                    | 87  |  |  | 53  |  |  | 65  |  |  |  |  |  |
| Capacity                                | 946 |  |  | 858 |  |  | 826 |  |  |  |  |  |
| 95% Queue Length, Q <sub>95</sub> (veh) | 0.3 |  |  | 0.2 |  |  | 0.3 |  |  |  |  |  |
| Control Delay (s/veh)                   | 7.2 |  |  | 7.5 |  |  | 7.7 |  |  |  |  |  |
| Level of Service, LOS                   | A   |  |  | A   |  |  | A   |  |  |  |  |  |
| Approach Delay (s/veh)                  | 7.2 |  |  | 7.5 |  |  | 7.7 |  |  |  |  |  |
| Approach LOS                            | A   |  |  | A   |  |  | A   |  |  |  |  |  |
| Intersection Delay, s/veh   LOS         | 7.4 |  |  |     |  |  | A   |  |  |  |  |  |

# HCS7 Two-Way Stop-Control Report

| General Information      |                             |  |  | Site Information           |                    |  |  |
|--------------------------|-----------------------------|--|--|----------------------------|--------------------|--|--|
| Analyst                  | Chris Hawkins               |  |  | Intersection               | Village/Polaris Rd |  |  |
| Agency/Co.               | LSC                         |  |  | Jurisdiction               |                    |  |  |
| Date Performed           | 2/26/2019                   |  |  | East/West Street           | Polaris rd         |  |  |
| Analysis Year            | 2019                        |  |  | North/South Street         | Village Rd         |  |  |
| Time Analyzed            |                             |  |  | Peak Hour Factor           | 0.92               |  |  |
| Intersection Orientation | North-South                 |  |  | Analysis Time Period (hrs) | 0.25               |  |  |
| Project Description      | Tahoe XC Summer Existing NP |  |  |                            |                    |  |  |

## Lanes



## Vehicle Volumes and Adjustments

| Approach                   | Eastbound |    |     |    | Westbound |   |     |   | Northbound |    |     |   | Southbound |   |     |   |
|----------------------------|-----------|----|-----|----|-----------|---|-----|---|------------|----|-----|---|------------|---|-----|---|
|                            | U         | L  | T   | R  | U         | L | T   | R | U          | L  | T   | R | U          | L | T   | R |
| Priority                   |           | 10 | 11  | 12 |           | 7 | 8   | 9 | 1U         | 1  | 2   | 3 | 4U         | 4 | 5   | 6 |
| Number of Lanes            |           | 0  | 1   | 0  |           | 0 | 1   | 0 | 0          | 0  | 1   | 0 | 0          | 0 | 1   | 0 |
| Configuration              |           |    | LTR |    |           |   | LTR |   |            |    | LTR |   |            |   | LTR |   |
| Volume (veh/h)             |           | 1  | 0   | 32 |           | 4 | 0   | 0 |            | 50 | 0   | 3 |            | 0 | 10  | 2 |
| Percent Heavy Vehicles (%) |           | 3  | 3   | 3  |           | 3 | 3   | 3 |            | 3  |     |   |            | 3 |     |   |
| Proportion Time Blocked    |           |    |     |    |           |   |     |   |            |    |     |   |            |   |     |   |
| Percent Grade (%)          | 0         |    |     |    | -5        |   |     |   |            |    |     |   |            |   |     |   |
| Right Turn Channelized     |           |    |     |    |           |   |     |   |            |    |     |   |            |   |     |   |
| Median Type   Storage      | Undivided |    |     |    |           |   |     |   |            |    |     |   |            |   |     |   |

## Critical and Follow-up Headways

|                              |  |      |      |      |  |      |      |      |  |      |  |  |  |      |  |  |
|------------------------------|--|------|------|------|--|------|------|------|--|------|--|--|--|------|--|--|
| Base Critical Headway (sec)  |  | 7.1  | 6.5  | 6.2  |  | 7.1  | 6.5  | 6.2  |  | 4.1  |  |  |  | 4.1  |  |  |
| Critical Headway (sec)       |  | 7.13 | 6.53 | 6.23 |  | 6.13 | 5.53 | 5.73 |  | 4.13 |  |  |  | 4.13 |  |  |
| Base Follow-Up Headway (sec) |  | 3.5  | 4.0  | 3.3  |  | 3.5  | 4.0  | 3.3  |  | 2.2  |  |  |  | 2.2  |  |  |
| Follow-Up Headway (sec)      |  | 3.53 | 4.03 | 3.33 |  | 3.53 | 4.03 | 3.33 |  | 2.23 |  |  |  | 2.23 |  |  |

## Delay, Queue Length, and Level of Service

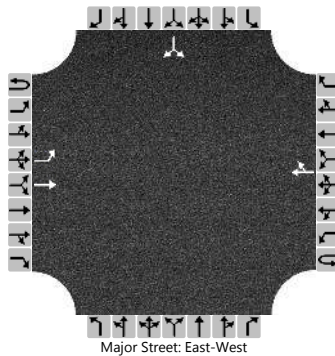
|   |     |  |      |  |     |  |      |  |     |      |  |  |     |  |      |  |
|---|-----|--|------|--|-----|--|------|--|-----|------|--|--|-----|--|------|--|
| Flow Rate, v (veh/h)                    |     |  | 36   |  |     |  | 4    |  |     | 54   |  |  |     |  | 0    |  |
| Capacity, c (veh/h)                     |     |  | 1057 |  |     |  | 811  |  |     | 1599 |  |  |     |  | 1612 |  |
| v/c Ratio                               |     |  | 0.03 |  |     |  | 0.01 |  |     | 0.03 |  |  |     |  | 0.00 |  |
| 95% Queue Length, Q <sub>95</sub> (veh) |     |  | 0.1  |  |     |  | 0.0  |  |     | 0.1  |  |  |     |  | 0.0  |  |
| Control Delay (s/veh)                   |     |  | 8.5  |  |     |  | 9.5  |  |     | 7.3  |  |  |     |  | 7.2  |  |
| Level of Service (LOS)                  |     |  | A    |  |     |  | A    |  |     | A    |  |  |     |  | A    |  |
| Approach Delay (s/veh)                  | 8.5 |  |      |  | 9.5 |  |      |  | 6.9 |      |  |  | 0.0 |  |      |  |
| Approach LOS                            | A   |  |      |  | A   |  |      |  |     |      |  |  |     |  |      |  |



# HCS7 Two-Way Stop-Control Report

| General Information      |                             |  |  | Site Information           |            |  |  |
|--------------------------|-----------------------------|--|--|----------------------------|------------|--|--|
| Analyst                  | Chris Hawkins               |  |  | Intersection               | SR28Fabian |  |  |
| Agency/Co.               | LSC                         |  |  | Jurisdiction               |            |  |  |
| Date Performed           | 2/26/2019                   |  |  | East/West Street           | SR 28      |  |  |
| Analysis Year            | 2019                        |  |  | North/South Street         | Fabian Way |  |  |
| Time Analyzed            | 2                           |  |  | Peak Hour Factor           | 0.92       |  |  |
| Intersection Orientation | East-West                   |  |  | Analysis Time Period (hrs) | 0.25       |  |  |
| Project Description      | Tahoe XC Winter Existing PP |  |  |                            |            |  |  |

## Lanes



## Vehicle Volumes and Adjustments

| Approach                   | Eastbound |    |     |   | Westbound |   |     |    | Northbound |   |   |   | Southbound |    |    |    |
|----------------------------|-----------|----|-----|---|-----------|---|-----|----|------------|---|---|---|------------|----|----|----|
|                            | U         | L  | T   | R | U         | L | T   | R  | U          | L | T | R | U          | L  | T  | R  |
| Movement                   | 1U        | 1  | 2   | 3 | 4U        | 4 | 5   | 6  |            | 7 | 8 | 9 |            | 10 | 11 | 12 |
| Priority                   |           |    |     |   |           |   |     |    |            |   |   |   |            |    |    |    |
| Number of Lanes            | 0         | 1  | 1   | 0 | 0         | 0 | 1   | 0  |            | 0 | 0 | 0 |            | 0  | 1  | 0  |
| Configuration              |           | L  | T   |   |           |   |     | TR |            |   |   |   |            |    | LR |    |
| Volume (veh/h)             |           | 44 | 360 |   |           |   | 255 | 85 |            |   |   |   |            | 88 |    | 46 |
| Percent Heavy Vehicles (%) |           | 3  |     |   |           |   |     |    |            |   |   |   |            | 3  |    | 3  |
| Proportion Time Blocked    |           |    |     |   |           |   |     |    |            |   |   |   |            |    |    |    |
| Percent Grade (%)          |           |    |     |   |           |   |     |    |            |   |   |   |            | -8 |    |    |
| Right Turn Channelized     |           |    |     |   |           |   |     |    |            |   |   |   |            |    |    |    |
| Median Type   Storage      |           |    |     |   | Left Only |   |     |    |            |   |   |   | 1          |    |    |    |

## Critical and Follow-up Headways

|                              |  |      |  |  |  |  |  |  |  |  |  |  |  |      |  |      |
|------------------------------|--|------|--|--|--|--|--|--|--|--|--|--|--|------|--|------|
| Base Critical Headway (sec)  |  | 4.1  |  |  |  |  |  |  |  |  |  |  |  | 6.1  |  | 4.9  |
| Critical Headway (sec)       |  | 4.13 |  |  |  |  |  |  |  |  |  |  |  | 3.83 |  | 4.13 |
| Base Follow-Up Headway (sec) |  | 2.2  |  |  |  |  |  |  |  |  |  |  |  | 3.5  |  | 3.3  |
| Follow-Up Headway (sec)      |  | 2.23 |  |  |  |  |  |  |  |  |  |  |  | 3.53 |  | 3.33 |

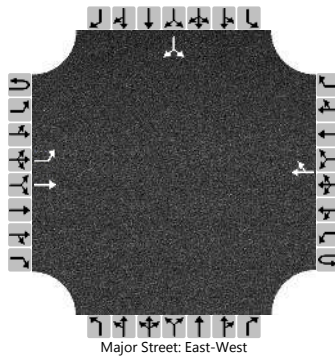
## Delay, Queue Length, and Level of Service

|   |  |      |  |  |  |  |  |  |  |  |  |  |   |     |  |      |  |
|---|--|------|--|--|--|--|--|--|--|--|--|--|---|-----|--|------|--|
| Flow Rate, v (veh/h)                    |  | 48   |  |  |  |  |  |  |  |  |  |  |   |     |  | 146  |  |
| Capacity, c (veh/h)                     |  | 1179 |  |  |  |  |  |  |  |  |  |  |   |     |  | 952  |  |
| v/c Ratio                               |  | 0.04 |  |  |  |  |  |  |  |  |  |  |   |     |  | 0.15 |  |
| 95% Queue Length, Q <sub>95</sub> (veh) |  | 0.1  |  |  |  |  |  |  |  |  |  |  |   |     |  | 0.5  |  |
| Control Delay (s/veh)                   |  | 8.2  |  |  |  |  |  |  |  |  |  |  |   |     |  | 9.5  |  |
| Level of Service (LOS)                  |  | A    |  |  |  |  |  |  |  |  |  |  |   |     |  | A    |  |
| Approach Delay (s/veh)                  |  | 0.9  |  |  |  |  |  |  |  |  |  |  |   | 9.5 |  |      |  |
| Approach LOS                            |  |      |  |  |  |  |  |  |  |  |  |  | A |     |  |      |  |

# HCS7 Two-Way Stop-Control Report

| General Information      |                             |  |  | Site Information           |                |  |  |
|--------------------------|-----------------------------|--|--|----------------------------|----------------|--|--|
| Analyst                  | Chris Hawkins               |  |  | Intersection               | Old Mill/SR 28 |  |  |
| Agency/Co.               | LSC                         |  |  | Jurisdiction               |                |  |  |
| Date Performed           | 2/27/2019                   |  |  | East/West Street           | SR28           |  |  |
| Analysis Year            | 2019                        |  |  | North/South Street         | Old Mill       |  |  |
| Time Analyzed            |                             |  |  | Peak Hour Factor           | 0.92           |  |  |
| Intersection Orientation | East-West                   |  |  | Analysis Time Period (hrs) | 0.25           |  |  |
| Project Description      | Tahoe XC Winter Existing PP |  |  |                            |                |  |  |

## Lanes



## Vehicle Volumes and Adjustments

| Approach                   | Eastbound |    |     |   | Westbound |   |     |    | Northbound |   |   |   | Southbound |     |    |    |
|----------------------------|-----------|----|-----|---|-----------|---|-----|----|------------|---|---|---|------------|-----|----|----|
|                            | U         | L  | T   | R | U         | L | T   | R  | U          | L | T | R | U          | L   | T  | R  |
| Movement                   | 1U        | 1  | 2   | 3 | 4U        | 4 | 5   | 6  |            | 7 | 8 | 9 |            | 10  | 11 | 12 |
| Priority                   |           |    |     |   |           |   |     |    |            |   |   |   |            |     |    |    |
| Number of Lanes            | 0         | 1  | 1   | 0 | 0         | 0 | 1   | 0  |            | 0 | 0 | 0 |            | 0   | 1  | 0  |
| Configuration              |           | L  | T   |   |           |   |     | TR |            |   |   |   |            |     | LR |    |
| Volume (veh/h)             |           | 69 | 305 |   |           |   | 308 | 7  |            |   |   |   |            | 2   |    | 48 |
| Percent Heavy Vehicles (%) |           | 3  |     |   |           |   |     |    |            |   |   |   |            | 3   |    | 3  |
| Proportion Time Blocked    |           |    |     |   |           |   |     |    |            |   |   |   |            |     |    |    |
| Percent Grade (%)          |           |    |     |   |           |   |     |    |            |   |   |   |            | -10 |    |    |
| Right Turn Channelized     |           |    |     |   |           |   |     |    |            |   |   |   |            |     |    |    |
| Median Type   Storage      | Undivided |    |     |   |           |   |     |    |            |   |   |   |            |     |    |    |

## Critical and Follow-up Headways

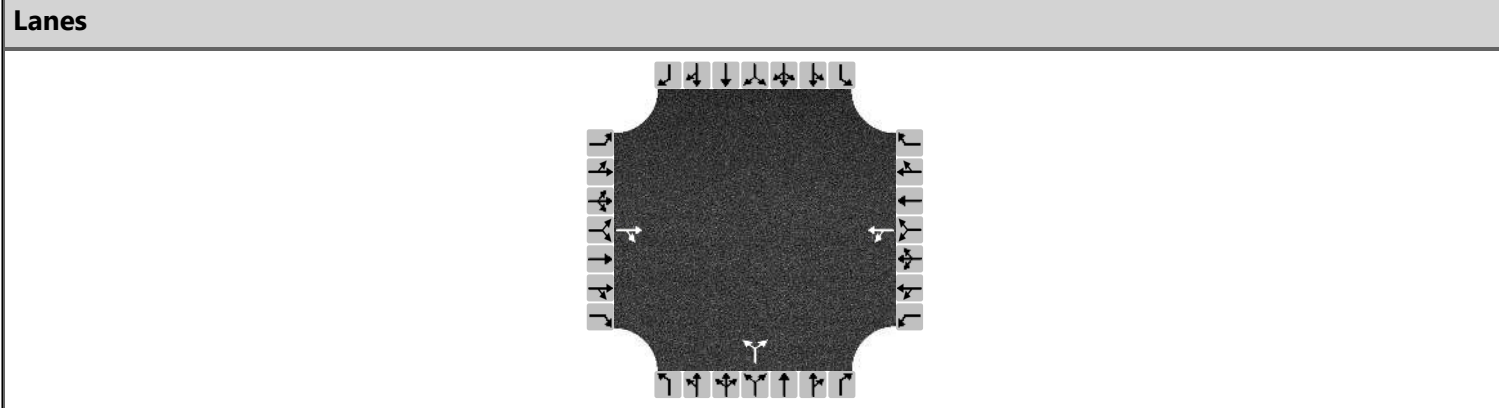
|                              |  |      |  |  |  |  |  |  |  |  |  |  |  |      |  |      |
|------------------------------|--|------|--|--|--|--|--|--|--|--|--|--|--|------|--|------|
| Base Critical Headway (sec)  |  | 4.1  |  |  |  |  |  |  |  |  |  |  |  | 7.1  |  | 6.2  |
| Critical Headway (sec)       |  | 4.13 |  |  |  |  |  |  |  |  |  |  |  | 4.43 |  | 5.23 |
| Base Follow-Up Headway (sec) |  | 2.2  |  |  |  |  |  |  |  |  |  |  |  | 3.5  |  | 3.3  |
| Follow-Up Headway (sec)      |  | 2.23 |  |  |  |  |  |  |  |  |  |  |  | 3.53 |  | 3.33 |

## Delay, Queue Length, and Level of Service

|   |  |      |  |  |  |  |  |  |  |  |  |  |  |     |  |      |  |
|---|--|------|--|--|--|--|--|--|--|--|--|--|--|-----|--|------|--|
| Flow Rate, v (veh/h)                    |  | 75   |  |  |  |  |  |  |  |  |  |  |  |     |  | 54   |  |
| Capacity, c (veh/h)                     |  | 1211 |  |  |  |  |  |  |  |  |  |  |  |     |  | 793  |  |
| v/c Ratio                               |  | 0.06 |  |  |  |  |  |  |  |  |  |  |  |     |  | 0.07 |  |
| 95% Queue Length, Q <sub>95</sub> (veh) |  | 0.2  |  |  |  |  |  |  |  |  |  |  |  |     |  | 0.2  |  |
| Control Delay (s/veh)                   |  | 8.2  |  |  |  |  |  |  |  |  |  |  |  |     |  | 9.9  |  |
| Level of Service (LOS)                  |  | A    |  |  |  |  |  |  |  |  |  |  |  |     |  | A    |  |
| Approach Delay (s/veh)                  |  | 1.5  |  |  |  |  |  |  |  |  |  |  |  | 9.9 |  |      |  |
| Approach LOS                            |  |      |  |  |  |  |  |  |  |  |  |  |  | A   |  |      |  |

# HCS7 All-Way Stop Control Report

| General Information        |                                | Site Information   |                     |
|----------------------------|--------------------------------|--------------------|---------------------|
| Analyst                    | Chris Hawkins                  | Intersection       | Polaris/Old Mill Rd |
| Agency/Co.                 | LSC                            | Jurisdiction       |                     |
| Date Performed             | 3/22/2019                      | East/West Street   | Polaris             |
| Analysis Year              | 2019                           | North/South Street | Old Mill            |
| Analysis Time Period (hrs) | 0.25                           | Peak Hour Factor   | 0.92                |
| Time Analyzed              |                                |                    |                     |
| Project Description        | Tahoe XC Winter PM Existing PP |                    |                     |



**Vehicle Volume and Adjustments**

| Approach               | Eastbound |     |    | Westbound |     |    | Northbound |    |    | Southbound |    |    |
|------------------------|-----------|-----|----|-----------|-----|----|------------|----|----|------------|----|----|
|                        | L         | T   | R  | L         | T   | R  | L          | T  | R  | L          | T  | R  |
| Movement               |           |     |    |           |     |    |            |    |    |            |    |    |
| Volume                 |           | 132 | 82 | 3         | 109 |    | 73         |    | 4  |            |    |    |
| % Thrus in Shared Lane |           |     |    |           |     |    |            |    |    |            |    |    |
| Lane                   | L1        | L2  | L3 | L1        | L2  | L3 | L1         | L2 | L3 | L1         | L2 | L3 |
| Configuration          | TR        |     |    | LT        |     |    | LR         |    |    |            |    |    |
| Flow Rate, v (veh/h)   | 233       |     |    | 122       |     |    | 84         |    |    |            |    |    |
| Percent Heavy Vehicles | 3         |     |    | 3         |     |    | 3          |    |    |            |    |    |

**Departure Headway and Service Time**

|                                   |       |  |  |       |  |  |       |  |  |  |  |  |
|-----------------------------------|-------|--|--|-------|--|--|-------|--|--|--|--|--|
| Initial Departure Headway, hd (s) | 3.20  |  |  | 3.20  |  |  | 3.20  |  |  |  |  |  |
| Initial Degree of Utilization, x  | 0.207 |  |  | 0.108 |  |  | 0.074 |  |  |  |  |  |
| Final Departure Headway, hd (s)   | 4.07  |  |  | 4.41  |  |  | 4.88  |  |  |  |  |  |
| Final Degree of Utilization, x    | 0.263 |  |  | 0.149 |  |  | 0.113 |  |  |  |  |  |
| Move-Up Time, m (s)               | 2.0   |  |  | 2.0   |  |  | 2.0   |  |  |  |  |  |
| Service Time, ts (s)              | 2.07  |  |  | 2.41  |  |  | 2.88  |  |  |  |  |  |

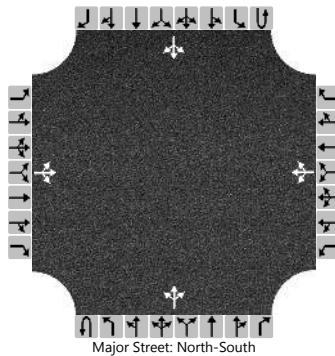
**Capacity, Delay and Level of Service**

|   |     |  |  |     |  |  |     |  |  |  |  |  |
|---|-----|--|--|-----|--|--|-----|--|--|--|--|--|
| Flow Rate, v (veh/h)                    | 233 |  |  | 122 |  |  | 84  |  |  |  |  |  |
| Capacity                                | 884 |  |  | 817 |  |  | 738 |  |  |  |  |  |
| 95% Queue Length, Q <sub>95</sub> (veh) | 1.1 |  |  | 0.5 |  |  | 0.4 |  |  |  |  |  |
| Control Delay (s/veh)                   | 8.5 |  |  | 8.2 |  |  | 8.5 |  |  |  |  |  |
| Level of Service, LOS                   | A   |  |  | A   |  |  | A   |  |  |  |  |  |
| Approach Delay (s/veh)                  | 8.5 |  |  | 8.2 |  |  | 8.5 |  |  |  |  |  |
| Approach LOS                            | A   |  |  | A   |  |  | A   |  |  |  |  |  |
| Intersection Delay, s/veh   LOS         | 8.4 |  |  |     |  |  | A   |  |  |  |  |  |

# HCS7 Two-Way Stop-Control Report

| General Information      |                               |  |  | Site Information           |                    |  |  |
|--------------------------|-------------------------------|--|--|----------------------------|--------------------|--|--|
| Analyst                  | Chris Hawkins                 |  |  | Intersection               | Village/Polaris Rd |  |  |
| Agency/Co.               | LSC                           |  |  | Jurisdiction               |                    |  |  |
| Date Performed           | 2/26/2019                     |  |  | East/West Street           | Polaris rd         |  |  |
| Analysis Year            | 2019                          |  |  | North/South Street         | Village Rd         |  |  |
| Time Analyzed            | PM                            |  |  | Peak Hour Factor           | 0.92               |  |  |
| Intersection Orientation | North-South                   |  |  | Analysis Time Period (hrs) | 0.25               |  |  |
| Project Description      | Tahoe XC - Winter Existing PP |  |  |                            |                    |  |  |

## Lanes



## Vehicle Volumes and Adjustments

| Approach                   | Eastbound |    |     |     | Westbound |   |     |   | Northbound |    |     |   | Southbound |   |     |   |
|----------------------------|-----------|----|-----|-----|-----------|---|-----|---|------------|----|-----|---|------------|---|-----|---|
|                            | U         | L  | T   | R   | U         | L | T   | R | U          | L  | T   | R | U          | L | T   | R |
| Priority                   |           | 10 | 11  | 12  |           | 7 | 8   | 9 | 1U         | 1  | 2   | 3 | 4U         | 4 | 5   | 6 |
| Number of Lanes            |           | 0  | 1   | 0   |           | 0 | 1   | 0 | 0          | 0  | 1   | 0 | 0          | 0 | 1   | 0 |
| Configuration              |           |    | LTR |     |           |   | LTR |   |            |    | LTR |   |            |   | LTR |   |
| Volume (veh/h)             |           | 4  | 0   | 111 |           | 0 | 0   | 0 |            | 99 | 3   | 0 |            | 0 | 20  | 2 |
| Percent Heavy Vehicles (%) |           | 3  | 3   | 3   |           | 3 | 3   | 3 |            | 3  |     |   |            | 3 |     |   |
| Proportion Time Blocked    |           |    |     |     |           |   |     |   |            |    |     |   |            |   |     |   |
| Percent Grade (%)          | 0         |    |     |     | -5        |   |     |   |            |    |     |   |            |   |     |   |
| Right Turn Channelized     |           |    |     |     |           |   |     |   |            |    |     |   |            |   |     |   |
| Median Type   Storage      | Undivided |    |     |     |           |   |     |   |            |    |     |   |            |   |     |   |

## Critical and Follow-up Headways

|                              |  |      |      |      |  |      |      |      |  |      |  |  |  |      |  |  |
|------------------------------|--|------|------|------|--|------|------|------|--|------|--|--|--|------|--|--|
| Base Critical Headway (sec)  |  | 7.1  | 6.5  | 6.2  |  | 7.1  | 6.5  | 6.2  |  | 4.1  |  |  |  | 4.1  |  |  |
| Critical Headway (sec)       |  | 7.13 | 6.53 | 6.23 |  | 6.13 | 5.53 | 5.73 |  | 4.13 |  |  |  | 4.13 |  |  |
| Base Follow-Up Headway (sec) |  | 3.5  | 4.0  | 3.3  |  | 3.5  | 4.0  | 3.3  |  | 2.2  |  |  |  | 2.2  |  |  |
| Follow-Up Headway (sec)      |  | 3.53 | 4.03 | 3.33 |  | 3.53 | 4.03 | 3.33 |  | 2.23 |  |  |  | 2.23 |  |  |

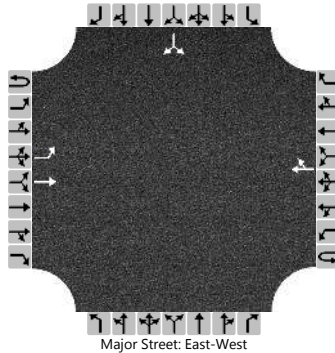
## Delay, Queue Length, and Level of Service

|   |     |  |      |  |  |  |   |  |     |      |  |  |     |      |  |  |
|---|-----|--|------|--|--|--|---|--|-----|------|--|--|-----|------|--|--|
| Flow Rate, v (veh/h)                    |     |  | 125  |  |  |  | 0 |  |     | 108  |  |  |     | 0    |  |  |
| Capacity, c (veh/h)                     |     |  | 1031 |  |  |  |   |  |     | 1584 |  |  |     | 1612 |  |  |
| v/c Ratio                               |     |  | 0.12 |  |  |  |   |  |     | 0.07 |  |  |     | 0.00 |  |  |
| 95% Queue Length, Q <sub>95</sub> (veh) |     |  | 0.4  |  |  |  |   |  |     | 0.2  |  |  |     | 0.0  |  |  |
| Control Delay (s/veh)                   |     |  | 9.0  |  |  |  |   |  |     | 7.4  |  |  |     | 7.2  |  |  |
| Level of Service (LOS)                  |     |  | A    |  |  |  |   |  |     | A    |  |  |     | A    |  |  |
| Approach Delay (s/veh)                  | 9.0 |  |      |  |  |  |   |  | 7.2 |      |  |  | 0.0 |      |  |  |
| Approach LOS                            | A   |  |      |  |  |  |   |  |     |      |  |  |     |      |  |  |

# HCS7 Two-Way Stop-Control Report

| General Information      |                                     |                            |            | Site Information |  |  |  |
|--------------------------|-------------------------------------|----------------------------|------------|------------------|--|--|--|
| Analyst                  | Chris Hawkins                       | Intersection               | SR28Fabian |                  |  |  |  |
| Agency/Co.               | LSC                                 | Jurisdiction               |            |                  |  |  |  |
| Date Performed           | 2/26/2019                           | East/West Street           | SR 28      |                  |  |  |  |
| Analysis Year            | 2019                                | North/South Street         | Fabian Way |                  |  |  |  |
| Time Analyzed            | 2                                   | Peak Hour Factor           | 0.92       |                  |  |  |  |
| Intersection Orientation | East-West                           | Analysis Time Period (hrs) | 0.25       |                  |  |  |  |
| Project Description      | Tahoe XC Winter Weekend Existing PP |                            |            |                  |  |  |  |

## Lanes



## Vehicle Volumes and Adjustments

| Approach                   | Eastbound |    |     |   | Westbound |   |     |    | Northbound |   |   |   | Southbound |    |    |    |
|----------------------------|-----------|----|-----|---|-----------|---|-----|----|------------|---|---|---|------------|----|----|----|
|                            | U         | L  | T   | R | U         | L | T   | R  | U          | L | T | R | U          | L  | T  | R  |
| Movement                   | 1U        | 1  | 2   | 3 | 4U        | 4 | 5   | 6  |            | 7 | 8 | 9 |            | 10 | 11 | 12 |
| Priority                   |           |    |     |   |           |   |     |    |            |   |   |   |            |    |    |    |
| Number of Lanes            | 0         | 1  | 1   | 0 | 0         | 0 | 1   | 0  |            | 0 | 0 | 0 |            | 0  | 1  | 0  |
| Configuration              |           | L  | T   |   |           |   |     | TR |            |   |   |   |            |    | LR |    |
| Volume (veh/h)             |           | 34 | 635 |   |           |   | 431 | 58 |            |   |   |   |            | 45 |    | 43 |
| Percent Heavy Vehicles (%) |           | 3  |     |   |           |   |     |    |            |   |   |   |            | 3  |    | 3  |
| Proportion Time Blocked    |           |    |     |   |           |   |     |    |            |   |   |   |            |    |    |    |
| Percent Grade (%)          |           |    |     |   |           |   |     |    |            |   |   |   |            | -8 |    |    |
| Right Turn Channelized     |           |    |     |   |           |   |     |    |            |   |   |   |            |    |    |    |
| Median Type   Storage      |           |    |     |   | Left Only |   |     |    |            |   |   |   | 1          |    |    |    |

## Critical and Follow-up Headways

|                              |  |      |  |  |  |  |  |  |  |  |  |  |  |      |  |      |
|------------------------------|--|------|--|--|--|--|--|--|--|--|--|--|--|------|--|------|
| Base Critical Headway (sec)  |  | 4.1  |  |  |  |  |  |  |  |  |  |  |  | 7.1  |  | 6.2  |
| Critical Headway (sec)       |  | 4.13 |  |  |  |  |  |  |  |  |  |  |  | 4.83 |  | 5.43 |
| Base Follow-Up Headway (sec) |  | 2.2  |  |  |  |  |  |  |  |  |  |  |  | 3.5  |  | 3.3  |
| Follow-Up Headway (sec)      |  | 2.23 |  |  |  |  |  |  |  |  |  |  |  | 3.53 |  | 3.33 |

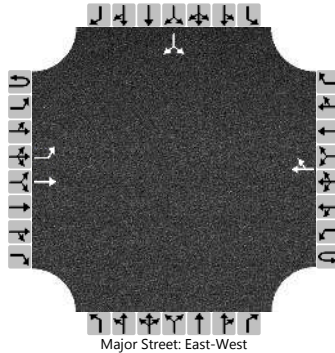
## Delay, Queue Length, and Level of Service

|   |  |      |  |  |  |  |  |  |  |  |  |  |  |     |  |      |  |
|---|--|------|--|--|--|--|--|--|--|--|--|--|--|-----|--|------|--|
| Flow Rate, v (veh/h)                    |  | 37   |  |  |  |  |  |  |  |  |  |  |  |     |  | 96   |  |
| Capacity, c (veh/h)                     |  | 1027 |  |  |  |  |  |  |  |  |  |  |  |     |  | 883  |  |
| v/c Ratio                               |  | 0.04 |  |  |  |  |  |  |  |  |  |  |  |     |  | 0.11 |  |
| 95% Queue Length, Q <sub>95</sub> (veh) |  | 0.1  |  |  |  |  |  |  |  |  |  |  |  |     |  | 0.4  |  |
| Control Delay (s/veh)                   |  | 8.6  |  |  |  |  |  |  |  |  |  |  |  |     |  | 9.6  |  |
| Level of Service (LOS)                  |  | A    |  |  |  |  |  |  |  |  |  |  |  |     |  | A    |  |
| Approach Delay (s/veh)                  |  | 0.4  |  |  |  |  |  |  |  |  |  |  |  | 9.6 |  |      |  |
| Approach LOS                            |  |      |  |  |  |  |  |  |  |  |  |  |  | A   |  |      |  |

# HCS7 Two-Way Stop-Control Report

| General Information      |                                       |  |  | Site Information           |                |  |  |
|--------------------------|---------------------------------------|--|--|----------------------------|----------------|--|--|
| Analyst                  | Chris Hawkins                         |  |  | Intersection               | Old Mill/SR 28 |  |  |
| Agency/Co.               | LSC                                   |  |  | Jurisdiction               |                |  |  |
| Date Performed           | 2/27/2019                             |  |  | East/West Street           | SR28           |  |  |
| Analysis Year            | 2019                                  |  |  | North/South Street         | Old Mill       |  |  |
| Time Analyzed            |                                       |  |  | Peak Hour Factor           | 0.92           |  |  |
| Intersection Orientation | East-West                             |  |  | Analysis Time Period (hrs) | 0.25           |  |  |
| Project Description      | Tahoe XC Winter Existing PP - Weekend |  |  |                            |                |  |  |

## Lanes



## Vehicle Volumes and Adjustments

| Approach                   | Eastbound |    |     |   | Westbound |   |     |    | Northbound |   |   |   | Southbound |    |    |     |
|----------------------------|-----------|----|-----|---|-----------|---|-----|----|------------|---|---|---|------------|----|----|-----|
|                            | U         | L  | T   | R | U         | L | T   | R  | U          | L | T | R | U          | L  | T  | R   |
| Movement                   | 1U        | 1  | 2   | 3 | 4U        | 4 | 5   | 6  |            | 7 | 8 | 9 |            | 10 | 11 | 12  |
| Priority                   |           |    |     |   |           |   |     |    |            |   |   |   |            |    |    |     |
| Number of Lanes            | 0         | 1  | 1   | 0 | 0         | 0 | 1   | 0  |            | 0 | 0 | 0 |            | 0  | 1  | 0   |
| Configuration              |           | L  | T   |   |           |   |     | TR |            |   |   |   |            |    | LR |     |
| Volume (veh/h)             |           | 48 | 646 |   |           |   | 464 | 14 |            |   |   |   |            | 4  |    | 48  |
| Percent Heavy Vehicles (%) |           | 3  |     |   |           |   |     |    |            |   |   |   |            | 3  |    | 3   |
| Proportion Time Blocked    |           |    |     |   |           |   |     |    |            |   |   |   |            |    |    |     |
| Percent Grade (%)          |           |    |     |   |           |   |     |    |            |   |   |   |            |    |    | -10 |
| Right Turn Channelized     |           |    |     |   |           |   |     |    |            |   |   |   |            |    |    |     |
| Median Type   Storage      | Undivided |    |     |   |           |   |     |    |            |   |   |   |            |    |    |     |

## Critical and Follow-up Headways

|                              |  |      |  |  |  |  |  |  |  |  |  |  |  |      |  |      |
|------------------------------|--|------|--|--|--|--|--|--|--|--|--|--|--|------|--|------|
| Base Critical Headway (sec)  |  | 4.1  |  |  |  |  |  |  |  |  |  |  |  | 7.1  |  | 6.2  |
| Critical Headway (sec)       |  | 4.13 |  |  |  |  |  |  |  |  |  |  |  | 4.43 |  | 5.23 |
| Base Follow-Up Headway (sec) |  | 2.2  |  |  |  |  |  |  |  |  |  |  |  | 3.5  |  | 3.3  |
| Follow-Up Headway (sec)      |  | 2.23 |  |  |  |  |  |  |  |  |  |  |  | 3.53 |  | 3.33 |

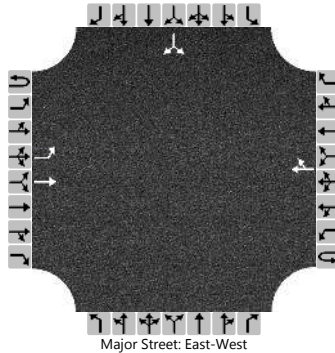
## Delay, Queue Length, and Level of Service

|   |  |      |  |  |  |  |  |  |  |  |  |  |  |      |  |      |  |
|---|--|------|--|--|--|--|--|--|--|--|--|--|--|------|--|------|--|
| Flow Rate, v (veh/h)                    |  | 52   |  |  |  |  |  |  |  |  |  |  |  |      |  | 57   |  |
| Capacity, c (veh/h)                     |  | 1041 |  |  |  |  |  |  |  |  |  |  |  |      |  | 691  |  |
| v/c Ratio                               |  | 0.05 |  |  |  |  |  |  |  |  |  |  |  |      |  | 0.08 |  |
| 95% Queue Length, Q <sub>95</sub> (veh) |  | 0.2  |  |  |  |  |  |  |  |  |  |  |  |      |  | 0.3  |  |
| Control Delay (s/veh)                   |  | 8.6  |  |  |  |  |  |  |  |  |  |  |  |      |  | 10.7 |  |
| Level of Service (LOS)                  |  | A    |  |  |  |  |  |  |  |  |  |  |  |      |  | B    |  |
| Approach Delay (s/veh)                  |  | 0.6  |  |  |  |  |  |  |  |  |  |  |  | 10.7 |  |      |  |
| Approach LOS                            |  |      |  |  |  |  |  |  |  |  |  |  |  | B    |  |      |  |

# HCS7 Two-Way Stop-Control Report

| General Information      |                                     |  |  | Site Information           |            |  |  |
|--------------------------|-------------------------------------|--|--|----------------------------|------------|--|--|
| Analyst                  | Chris Hawkins                       |  |  | Intersection               | SR28Fabian |  |  |
| Agency/Co.               | LSC                                 |  |  | Jurisdiction               |            |  |  |
| Date Performed           | 3/5/2019                            |  |  | East/West Street           | SR 28      |  |  |
| Analysis Year            | 2018                                |  |  | North/South Street         | Fabian Way |  |  |
| Time Analyzed            | 2                                   |  |  | Peak Hour Factor           | 0.92       |  |  |
| Intersection Orientation | East-West                           |  |  | Analysis Time Period (hrs) | 0.25       |  |  |
| Project Description      | Tahoe XC Summer Existing PP Ex Site |  |  |                            |            |  |  |

## Lanes



## Vehicle Volumes and Adjustments

| Approach                   | Eastbound |    |     |   | Westbound |   |     |    | Northbound |   |   |   | Southbound |    |    |    |
|----------------------------|-----------|----|-----|---|-----------|---|-----|----|------------|---|---|---|------------|----|----|----|
|                            | U         | L  | T   | R | U         | L | T   | R  | U          | L | T | R | U          | L  | T  | R  |
| Movement                   | 1U        | 1  | 2   | 3 | 4U        | 4 | 5   | 6  |            | 7 | 8 | 9 |            | 10 | 11 | 12 |
| Priority                   |           |    |     |   |           |   |     |    |            |   |   |   |            |    |    |    |
| Number of Lanes            | 0         | 1  | 1   | 0 | 0         | 0 | 1   | 0  | 0          | 0 | 0 | 0 | 0          | 1  | 0  |    |
| Configuration              |           | L  | T   |   |           |   |     | TR |            |   |   |   |            |    | LR |    |
| Volume (veh/h)             |           | 74 | 661 |   |           |   | 453 | 61 |            |   |   |   |            | 52 |    | 58 |
| Percent Heavy Vehicles (%) |           | 3  |     |   |           |   |     |    |            |   |   |   |            | 3  |    | 3  |
| Proportion Time Blocked    |           |    |     |   |           |   |     |    |            |   |   |   |            |    |    |    |
| Percent Grade (%)          |           |    |     |   |           |   |     |    |            |   |   |   |            | -8 |    |    |
| Right Turn Channelized     |           |    |     |   |           |   |     |    |            |   |   |   |            |    |    |    |
| Median Type   Storage      |           |    |     |   | Left Only |   |     |    |            |   |   |   | 1          |    |    |    |

## Critical and Follow-up Headways

|                              |  |      |  |  |  |  |  |  |  |  |  |  |  |      |  |      |
|------------------------------|--|------|--|--|--|--|--|--|--|--|--|--|--|------|--|------|
| Base Critical Headway (sec)  |  | 4.1  |  |  |  |  |  |  |  |  |  |  |  | 7.1  |  | 6.2  |
| Critical Headway (sec)       |  | 4.13 |  |  |  |  |  |  |  |  |  |  |  | 4.83 |  | 5.43 |
| Base Follow-Up Headway (sec) |  | 2.2  |  |  |  |  |  |  |  |  |  |  |  | 3.5  |  | 3.3  |
| Follow-Up Headway (sec)      |  | 2.23 |  |  |  |  |  |  |  |  |  |  |  | 3.53 |  | 3.33 |

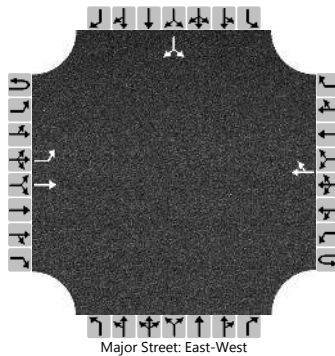
## Delay, Queue Length, and Level of Service

|   |  |      |  |  |  |  |  |  |  |  |  |  |   |     |  |      |  |
|---|--|------|--|--|--|--|--|--|--|--|--|--|---|-----|--|------|--|
| Flow Rate, v (veh/h)                    |  | 80   |  |  |  |  |  |  |  |  |  |  |   |     |  | 120  |  |
| Capacity, c (veh/h)                     |  | 1004 |  |  |  |  |  |  |  |  |  |  |   |     |  | 853  |  |
| v/c Ratio                               |  | 0.08 |  |  |  |  |  |  |  |  |  |  |   |     |  | 0.14 |  |
| 95% Queue Length, Q <sub>95</sub> (veh) |  | 0.3  |  |  |  |  |  |  |  |  |  |  |   |     |  | 0.5  |  |
| Control Delay (s/veh)                   |  | 8.9  |  |  |  |  |  |  |  |  |  |  |   |     |  | 9.9  |  |
| Level of Service (LOS)                  |  | A    |  |  |  |  |  |  |  |  |  |  |   |     |  | A    |  |
| Approach Delay (s/veh)                  |  | 0.9  |  |  |  |  |  |  |  |  |  |  |   | 9.9 |  |      |  |
| Approach LOS                            |  |      |  |  |  |  |  |  |  |  |  |  | A |     |  |      |  |

# HCS7 Two-Way Stop-Control Report

| General Information      |                                     |  |  | Site Information           |                |  |  |
|--------------------------|-------------------------------------|--|--|----------------------------|----------------|--|--|
| Analyst                  | Chris Hawkins                       |  |  | Intersection               | Old Mill/SR 28 |  |  |
| Agency/Co.               | LSC                                 |  |  | Jurisdiction               |                |  |  |
| Date Performed           | 3/5/2019                            |  |  | East/West Street           | SR28           |  |  |
| Analysis Year            | 2019                                |  |  | North/South Street         | Old Mill       |  |  |
| Time Analyzed            |                                     |  |  | Peak Hour Factor           | 0.92           |  |  |
| Intersection Orientation | East-West                           |  |  | Analysis Time Period (hrs) | 0.25           |  |  |
| Project Description      | Tahoe XC Summer Existing PP Ex Site |  |  |                            |                |  |  |

## Lanes



## Vehicle Volumes and Adjustments

| Approach                   | Eastbound |    |     |   | Westbound |   |     |    | Northbound |   |   |   | Southbound |    |    |     |
|----------------------------|-----------|----|-----|---|-----------|---|-----|----|------------|---|---|---|------------|----|----|-----|
|                            | U         | L  | T   | R | U         | L | T   | R  | U          | L | T | R | U          | L  | T  | R   |
| Movement                   | 1U        | 1  | 2   | 3 | 4U        | 4 | 5   | 6  |            | 7 | 8 | 9 |            | 10 | 11 | 12  |
| Priority                   |           |    |     |   |           |   |     |    |            |   |   |   |            |    |    |     |
| Number of Lanes            | 0         | 1  | 1   | 0 | 0         | 0 | 1   | 0  |            | 0 | 0 | 0 |            | 0  | 1  | 0   |
| Configuration              |           | L  | T   |   |           |   |     | TR |            |   |   |   |            |    | LR |     |
| Volume (veh/h)             |           | 37 | 698 |   |           |   | 467 | 11 |            |   |   |   |            | 3  |    | 25  |
| Percent Heavy Vehicles (%) |           | 3  |     |   |           |   |     |    |            |   |   |   |            | 3  |    | 3   |
| Proportion Time Blocked    |           |    |     |   |           |   |     |    |            |   |   |   |            |    |    |     |
| Percent Grade (%)          |           |    |     |   |           |   |     |    |            |   |   |   |            |    |    | -10 |
| Right Turn Channelized     |           |    |     |   |           |   |     |    |            |   |   |   |            |    |    |     |
| Median Type   Storage      | Undivided |    |     |   |           |   |     |    |            |   |   |   |            |    |    |     |

## Critical and Follow-up Headways

|                              |  |      |  |  |  |  |  |  |  |  |  |  |  |      |  |      |
|------------------------------|--|------|--|--|--|--|--|--|--|--|--|--|--|------|--|------|
| Base Critical Headway (sec)  |  | 4.1  |  |  |  |  |  |  |  |  |  |  |  | 7.1  |  | 6.2  |
| Critical Headway (sec)       |  | 4.13 |  |  |  |  |  |  |  |  |  |  |  | 4.43 |  | 5.23 |
| Base Follow-Up Headway (sec) |  | 2.2  |  |  |  |  |  |  |  |  |  |  |  | 3.5  |  | 3.3  |
| Follow-Up Headway (sec)      |  | 2.23 |  |  |  |  |  |  |  |  |  |  |  | 3.53 |  | 3.33 |

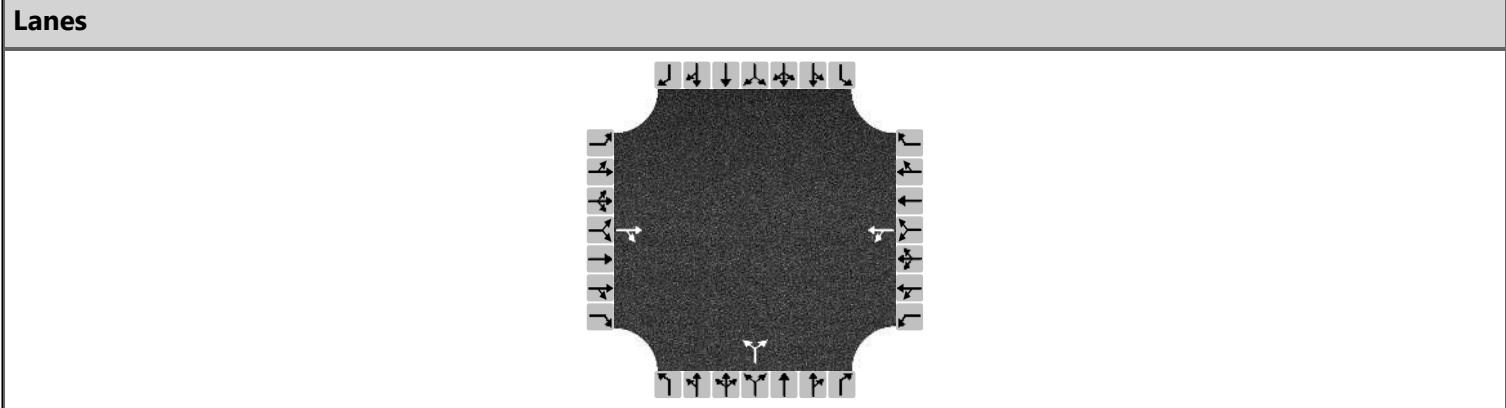
## Delay, Queue Length, and Level of Service

|   |  |      |  |  |  |  |  |  |  |  |  |  |  |      |  |      |  |
|---|--|------|--|--|--|--|--|--|--|--|--|--|--|------|--|------|--|
| Flow Rate, v (veh/h)                    |  | 40   |  |  |  |  |  |  |  |  |  |  |  |      |  | 30   |  |
| Capacity, c (veh/h)                     |  | 1041 |  |  |  |  |  |  |  |  |  |  |  |      |  | 713  |  |
| v/c Ratio                               |  | 0.04 |  |  |  |  |  |  |  |  |  |  |  |      |  | 0.04 |  |
| 95% Queue Length, Q <sub>95</sub> (veh) |  | 0.1  |  |  |  |  |  |  |  |  |  |  |  |      |  | 0.1  |  |
| Control Delay (s/veh)                   |  | 8.6  |  |  |  |  |  |  |  |  |  |  |  |      |  | 10.3 |  |
| Level of Service (LOS)                  |  | A    |  |  |  |  |  |  |  |  |  |  |  |      |  | B    |  |
| Approach Delay (s/veh)                  |  | 0.4  |  |  |  |  |  |  |  |  |  |  |  | 10.3 |  |      |  |
| Approach LOS                            |  |      |  |  |  |  |  |  |  |  |  |  |  | B    |  |      |  |



# HCS7 All-Way Stop Control Report

| General Information        |                                     | Site Information   |                     |
|----------------------------|-------------------------------------|--------------------|---------------------|
| Analyst                    | Chris Hawkins                       | Intersection       | Polaris/Old Mill Rd |
| Agency/Co.                 | LSC                                 | Jurisdiction       |                     |
| Date Performed             | 3/22/2019                           | East/West Street   | Polaris             |
| Analysis Year              | 2019                                | North/South Street | Old Mill            |
| Analysis Time Period (hrs) | 0.25                                | Peak Hour Factor   | 0.92                |
| Time Analyzed              |                                     |                    |                     |
| Project Description        | Tahoe XC Summer Existing PP Ex Site |                    |                     |



**Vehicle Volume and Adjustments**

| Approach               | Eastbound |    |    | Westbound |    |    | Northbound |    |    | Southbound |    |    |
|------------------------|-----------|----|----|-----------|----|----|------------|----|----|------------|----|----|
|                        | L         | T  | R  | L         | T  | R  | L          | T  | R  | L          | T  | R  |
| Movement               |           |    |    |           |    |    |            |    |    |            |    |    |
| Volume                 |           | 9  | 17 | 3         | 9  |    | 12         |    | 6  |            |    |    |
| % Thrus in Shared Lane |           |    |    |           |    |    |            |    |    |            |    |    |
| Lane                   | L1        | L2 | L3 | L1        | L2 | L3 | L1         | L2 | L3 | L1         | L2 | L3 |
| Configuration          | TR        |    |    | LT        |    |    | LR         |    |    |            |    |    |
| Flow Rate, v (veh/h)   | 28        |    |    | 13        |    |    | 20         |    |    |            |    |    |
| Percent Heavy Vehicles | 3         |    |    | 3         |    |    | 3          |    |    |            |    |    |

**Departure Headway and Service Time**

|                                   |       |  |  |       |  |  |       |  |  |  |  |  |
|-----------------------------------|-------|--|--|-------|--|--|-------|--|--|--|--|--|
| Initial Departure Headway, hd (s) | 3.20  |  |  | 3.20  |  |  | 3.20  |  |  |  |  |  |
| Initial Degree of Utilization, x  | 0.025 |  |  | 0.012 |  |  | 0.017 |  |  |  |  |  |
| Final Departure Headway, hd (s)   | 3.61  |  |  | 4.07  |  |  | 3.97  |  |  |  |  |  |
| Final Degree of Utilization, x    | 0.028 |  |  | 0.015 |  |  | 0.022 |  |  |  |  |  |
| Move-Up Time, m (s)               | 2.0   |  |  | 2.0   |  |  | 2.0   |  |  |  |  |  |
| Service Time, ts (s)              | 1.61  |  |  | 2.07  |  |  | 1.97  |  |  |  |  |  |

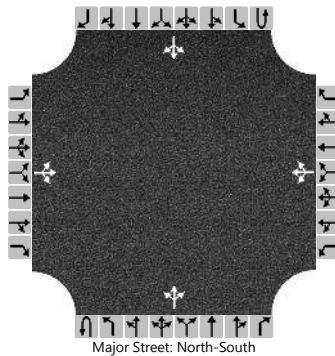
**Capacity, Delay and Level of Service**

|   |     |  |  |     |  |  |     |  |  |  |  |  |
|---|-----|--|--|-----|--|--|-----|--|--|--|--|--|
| Flow Rate, v (veh/h)                    | 28  |  |  | 13  |  |  | 20  |  |  |  |  |  |
| Capacity                                | 996 |  |  | 885 |  |  | 908 |  |  |  |  |  |
| 95% Queue Length, Q <sub>95</sub> (veh) | 0.1 |  |  | 0.0 |  |  | 0.1 |  |  |  |  |  |
| Control Delay (s/veh)                   | 6.7 |  |  | 7.1 |  |  | 7.1 |  |  |  |  |  |
| Level of Service, LOS                   | A   |  |  | A   |  |  | A   |  |  |  |  |  |
| Approach Delay (s/veh)                  | 6.7 |  |  | 7.1 |  |  | 7.1 |  |  |  |  |  |
| Approach LOS                            | A   |  |  | A   |  |  | A   |  |  |  |  |  |
| Intersection Delay, s/veh   LOS         | 6.9 |  |  |     |  |  | A   |  |  |  |  |  |

# HCS7 Two-Way Stop-Control Report

| General Information      |                                     |  |  | Site Information           |                    |  |  |
|--------------------------|-------------------------------------|--|--|----------------------------|--------------------|--|--|
| Analyst                  | Chris Hawkins                       |  |  | Intersection               | Village/Polaris Rd |  |  |
| Agency/Co.               | LSC                                 |  |  | Jurisdiction               |                    |  |  |
| Date Performed           | 3/5/2019                            |  |  | East/West Street           | Polaris rd         |  |  |
| Analysis Year            | 2019                                |  |  | North/South Street         | Village Rd         |  |  |
| Time Analyzed            |                                     |  |  | Peak Hour Factor           | 0.92               |  |  |
| Intersection Orientation | North-South                         |  |  | Analysis Time Period (hrs) | 0.25               |  |  |
| Project Description      | Tahoe XC Summer Existing PP Ex Site |  |  |                            |                    |  |  |

## Lanes



## Vehicle Volumes and Adjustments

| Approach                   | Eastbound |    |     |    | Westbound |   |     |   | Northbound |    |     |   | Southbound |   |     |   |
|----------------------------|-----------|----|-----|----|-----------|---|-----|---|------------|----|-----|---|------------|---|-----|---|
|                            | U         | L  | T   | R  | U         | L | T   | R | U          | L  | T   | R | U          | L | T   | R |
| Priority                   |           | 10 | 11  | 12 |           | 7 | 8   | 9 | 1U         | 1  | 2   | 3 | 4U         | 4 | 5   | 6 |
| Number of Lanes            |           | 0  | 1   | 0  |           | 0 | 1   | 0 | 0          | 0  | 1   | 0 | 0          | 0 | 1   | 0 |
| Configuration              |           |    | LTR |    |           |   | LTR |   |            |    | LTR |   |            |   | LTR |   |
| Volume (veh/h)             |           | 1  | 0   | 8  |           | 4 | 0   | 0 |            | 13 | 96  | 3 |            | 0 | 72  | 2 |
| Percent Heavy Vehicles (%) |           | 3  | 3   | 3  |           | 3 | 3   | 3 |            | 3  |     |   |            | 3 |     |   |
| Proportion Time Blocked    |           |    |     |    |           |   |     |   |            |    |     |   |            |   |     |   |
| Percent Grade (%)          | 0         |    |     |    | -5        |   |     |   |            |    |     |   |            |   |     |   |
| Right Turn Channelized     |           |    |     |    |           |   |     |   |            |    |     |   |            |   |     |   |
| Median Type   Storage      | Undivided |    |     |    |           |   |     |   |            |    |     |   |            |   |     |   |

## Critical and Follow-up Headways

|                              |  |      |      |      |  |      |      |      |  |      |  |  |  |      |  |  |
|------------------------------|--|------|------|------|--|------|------|------|--|------|--|--|--|------|--|--|
| Base Critical Headway (sec)  |  | 7.1  | 6.5  | 6.2  |  | 7.1  | 6.5  | 6.2  |  | 4.1  |  |  |  | 4.1  |  |  |
| Critical Headway (sec)       |  | 7.13 | 6.53 | 6.23 |  | 6.13 | 5.53 | 5.73 |  | 4.13 |  |  |  | 4.13 |  |  |
| Base Follow-Up Headway (sec) |  | 3.5  | 4.0  | 3.3  |  | 3.5  | 4.0  | 3.3  |  | 2.2  |  |  |  | 2.2  |  |  |
| Follow-Up Headway (sec)      |  | 3.53 | 4.03 | 3.33 |  | 3.53 | 4.03 | 3.33 |  | 2.23 |  |  |  | 2.23 |  |  |

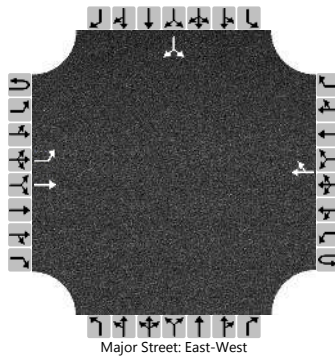
## Delay, Queue Length, and Level of Service

|   |     |  |      |  |     |  |      |  |     |  |  |      |     |  |  |      |
|---|-----|--|------|--|-----|--|------|--|-----|--|--|------|-----|--|--|------|
| Flow Rate, v (veh/h)                    |     |  | 10   |  |     |  | 4    |  |     |  |  | 14   |     |  |  | 0    |
| Capacity, c (veh/h)                     |     |  | 944  |  |     |  | 769  |  |     |  |  | 1511 |     |  |  | 1477 |
| v/c Ratio                               |     |  | 0.01 |  |     |  | 0.01 |  |     |  |  | 0.01 |     |  |  | 0.00 |
| 95% Queue Length, Q <sub>95</sub> (veh) |     |  | 0.0  |  |     |  | 0.0  |  |     |  |  | 0.0  |     |  |  | 0.0  |
| Control Delay (s/veh)                   |     |  | 8.9  |  |     |  | 9.7  |  |     |  |  | 7.4  |     |  |  | 7.4  |
| Level of Service (LOS)                  |     |  | A    |  |     |  | A    |  |     |  |  | A    |     |  |  | A    |
| Approach Delay (s/veh)                  | 8.9 |  |      |  | 9.7 |  |      |  | 0.9 |  |  |      | 0.0 |  |  |      |
| Approach LOS                            | A   |  |      |  | A   |  |      |  |     |  |  |      |     |  |  |      |

# HCS7 Two-Way Stop-Control Report

| General Information      |                                     |  |  | Site Information           |            |  |  |
|--------------------------|-------------------------------------|--|--|----------------------------|------------|--|--|
| Analyst                  | Chris Hawkins                       |  |  | Intersection               | SR28Fabian |  |  |
| Agency/Co.               | LSC                                 |  |  | Jurisdiction               |            |  |  |
| Date Performed           | 3/5/2019                            |  |  | East/West Street           | SR 28      |  |  |
| Analysis Year            | 2019                                |  |  | North/South Street         | Fabian Way |  |  |
| Time Analyzed            | 2                                   |  |  | Peak Hour Factor           | 0.92       |  |  |
| Intersection Orientation | East-West                           |  |  | Analysis Time Period (hrs) | 0.25       |  |  |
| Project Description      | Tahoe XC Summer Existing PP Ex Site |  |  |                            |            |  |  |

## Lanes



## Vehicle Volumes and Adjustments

| Approach                   | Eastbound |    |     |   | Westbound |   |     |     | Northbound |   |   |   | Southbound |    |    |    |
|----------------------------|-----------|----|-----|---|-----------|---|-----|-----|------------|---|---|---|------------|----|----|----|
|                            | U         | L  | T   | R | U         | L | T   | R   | U          | L | T | R | U          | L  | T  | R  |
| Movement                   | 1U        | 1  | 2   | 3 | 4U        | 4 | 5   | 6   |            | 7 | 8 | 9 |            | 10 | 11 | 12 |
| Priority                   |           |    |     |   |           |   |     |     |            |   |   |   |            |    |    |    |
| Number of Lanes            | 0         | 1  | 1   | 0 | 0         | 0 | 1   | 0   |            | 0 | 0 | 0 |            | 0  | 1  | 0  |
| Configuration              |           | L  | T   |   |           |   |     | TR  |            |   |   |   |            |    | LR |    |
| Volume (veh/h)             |           | 92 | 360 |   |           |   | 255 | 100 |            |   |   |   |            | 94 |    | 47 |
| Percent Heavy Vehicles (%) |           | 3  |     |   |           |   |     |     |            |   |   |   |            | 3  |    | 3  |
| Proportion Time Blocked    |           |    |     |   |           |   |     |     |            |   |   |   |            |    |    |    |
| Percent Grade (%)          |           |    |     |   |           |   |     |     |            |   |   |   |            | -8 |    |    |
| Right Turn Channelized     |           |    |     |   |           |   |     |     |            |   |   |   |            |    |    |    |
| Median Type   Storage      |           |    |     |   |           |   |     |     |            |   |   |   |            |    |    |    |
|                            |           |    |     |   | Left Only |   |     |     |            |   |   |   | 1          |    |    |    |

## Critical and Follow-up Headways

|                              |  |      |  |  |  |  |  |  |  |  |  |  |  |      |  |      |
|------------------------------|--|------|--|--|--|--|--|--|--|--|--|--|--|------|--|------|
| Base Critical Headway (sec)  |  | 4.1  |  |  |  |  |  |  |  |  |  |  |  | 6.1  |  | 4.9  |
| Critical Headway (sec)       |  | 4.13 |  |  |  |  |  |  |  |  |  |  |  | 3.83 |  | 4.13 |
| Base Follow-Up Headway (sec) |  | 2.2  |  |  |  |  |  |  |  |  |  |  |  | 3.5  |  | 3.3  |
| Follow-Up Headway (sec)      |  | 2.23 |  |  |  |  |  |  |  |  |  |  |  | 3.53 |  | 3.33 |

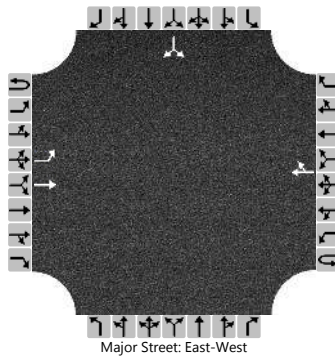
## Delay, Queue Length, and Level of Service

|   |  |      |  |  |     |  |  |  |  |  |  |  |      |  |  |      |
|---|--|------|--|--|-----|--|--|--|--|--|--|--|------|--|--|------|
| Flow Rate, v (veh/h)                    |  | 100  |  |  |     |  |  |  |  |  |  |  |      |  |  | 153  |
| Capacity, c (veh/h)                     |  | 1163 |  |  |     |  |  |  |  |  |  |  |      |  |  | 847  |
| v/c Ratio                               |  | 0.09 |  |  |     |  |  |  |  |  |  |  |      |  |  | 0.18 |
| 95% Queue Length, Q <sub>95</sub> (veh) |  | 0.3  |  |  |     |  |  |  |  |  |  |  |      |  |  | 0.7  |
| Control Delay (s/veh)                   |  | 8.4  |  |  |     |  |  |  |  |  |  |  |      |  |  | 10.2 |
| Level of Service (LOS)                  |  | A    |  |  |     |  |  |  |  |  |  |  |      |  |  | B    |
| Approach Delay (s/veh)                  |  |      |  |  | 1.7 |  |  |  |  |  |  |  | 10.2 |  |  |      |
| Approach LOS                            |  |      |  |  |     |  |  |  |  |  |  |  | B    |  |  |      |

# HCS7 Two-Way Stop-Control Report

| General Information      |                                     |  |  | Site Information           |                |  |  |
|--------------------------|-------------------------------------|--|--|----------------------------|----------------|--|--|
| Analyst                  | Chris Hawkins                       |  |  | Intersection               | Old Mill/SR 28 |  |  |
| Agency/Co.               | LSC                                 |  |  | Jurisdiction               |                |  |  |
| Date Performed           | 3/5/2019                            |  |  | East/West Street           | SR28           |  |  |
| Analysis Year            | 2019                                |  |  | North/South Street         | Old Mill       |  |  |
| Time Analyzed            |                                     |  |  | Peak Hour Factor           | 0.92           |  |  |
| Intersection Orientation | East-West                           |  |  | Analysis Time Period (hrs) | 0.25           |  |  |
| Project Description      | Tahoe XC Summer Existing PP Ex Site |  |  |                            |                |  |  |

## Lanes



## Vehicle Volumes and Adjustments

| Approach                   | Eastbound |    |     |   | Westbound |   |     |    | Northbound |   |   |   | Southbound |     |    |    |
|----------------------------|-----------|----|-----|---|-----------|---|-----|----|------------|---|---|---|------------|-----|----|----|
|                            | U         | L  | T   | R | U         | L | T   | R  | U          | L | T | R | U          | L   | T  | R  |
| Movement                   | 1U        | 1  | 2   | 3 | 4U        | 4 | 5   | 6  |            | 7 | 8 | 9 |            | 10  | 11 | 12 |
| Priority                   |           |    |     |   |           |   |     |    |            |   |   |   |            |     |    |    |
| Number of Lanes            | 0         | 1  | 1   | 0 | 0         | 0 | 1   | 0  |            | 0 | 0 | 0 |            | 0   | 1  | 0  |
| Configuration              |           | L  | T   |   |           |   |     | TR |            |   |   |   |            |     | LR |    |
| Volume (veh/h)             |           | 40 | 353 |   |           |   | 309 | 7  |            |   |   |   |            | 2   |    | 44 |
| Percent Heavy Vehicles (%) |           | 3  |     |   |           |   |     |    |            |   |   |   |            | 3   |    | 3  |
| Proportion Time Blocked    |           |    |     |   |           |   |     |    |            |   |   |   |            |     |    |    |
| Percent Grade (%)          |           |    |     |   |           |   |     |    |            |   |   |   |            | -10 |    |    |
| Right Turn Channelized     |           |    |     |   |           |   |     |    |            |   |   |   |            |     |    |    |
| Median Type   Storage      | Undivided |    |     |   |           |   |     |    |            |   |   |   |            |     |    |    |

## Critical and Follow-up Headways

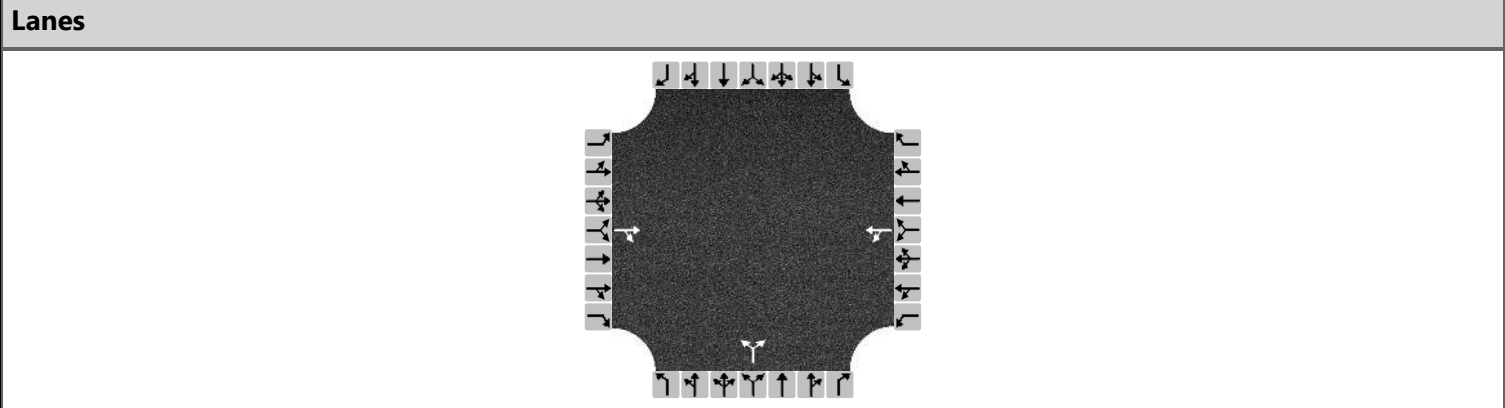
|                              |  |      |  |  |  |  |  |  |  |  |  |  |  |      |  |      |
|------------------------------|--|------|--|--|--|--|--|--|--|--|--|--|--|------|--|------|
| Base Critical Headway (sec)  |  | 4.1  |  |  |  |  |  |  |  |  |  |  |  | 7.1  |  | 6.2  |
| Critical Headway (sec)       |  | 4.13 |  |  |  |  |  |  |  |  |  |  |  | 4.43 |  | 5.23 |
| Base Follow-Up Headway (sec) |  | 2.2  |  |  |  |  |  |  |  |  |  |  |  | 3.5  |  | 3.3  |
| Follow-Up Headway (sec)      |  | 2.23 |  |  |  |  |  |  |  |  |  |  |  | 3.53 |  | 3.33 |

## Delay, Queue Length, and Level of Service

|   |  |      |  |  |  |  |  |  |  |  |  |  |  |     |  |      |  |
|---|--|------|--|--|--|--|--|--|--|--|--|--|--|-----|--|------|--|
| Flow Rate, v (veh/h)                    |  | 43   |  |  |  |  |  |  |  |  |  |  |  |     |  | 50   |  |
| Capacity, c (veh/h)                     |  | 1210 |  |  |  |  |  |  |  |  |  |  |  |     |  | 795  |  |
| v/c Ratio                               |  | 0.04 |  |  |  |  |  |  |  |  |  |  |  |     |  | 0.06 |  |
| 95% Queue Length, Q <sub>95</sub> (veh) |  | 0.1  |  |  |  |  |  |  |  |  |  |  |  |     |  | 0.2  |  |
| Control Delay (s/veh)                   |  | 8.1  |  |  |  |  |  |  |  |  |  |  |  |     |  | 9.8  |  |
| Level of Service (LOS)                  |  | A    |  |  |  |  |  |  |  |  |  |  |  |     |  | A    |  |
| Approach Delay (s/veh)                  |  | 0.8  |  |  |  |  |  |  |  |  |  |  |  | 9.8 |  |      |  |
| Approach LOS                            |  |      |  |  |  |  |  |  |  |  |  |  |  | A   |  |      |  |

# HCS7 All-Way Stop Control Report

| General Information        |  | Site Information   |                     |
|----------------------------|--|--------------------|---------------------|
| Analyst                    | Chris Hawkins                          | Intersection       | Polaris/Old Mill Rd |
| Agency/Co.                 | LSC                                    | Jurisdiction       |                     |
| Date Performed             | 3/22/2019                              | East/West Street   | Polaris             |
| Analysis Year              | 2019                                   | North/South Street | Old Mill            |
| Analysis Time Period (hrs) | 0.25                                   | Peak Hour Factor   | 0.92                |
| Time Analyzed              |  |                    |                     |
| Project Description        | Tahoe XC Winter PM Existing PP Ex Site |                    |                     |



**Vehicle Volume and Adjustments**

| Approach               | Eastbound |     |    | Westbound |    |    | Northbound |    |    | Southbound |    |    |
|------------------------|-----------|-----|----|-----------|----|----|------------|----|----|------------|----|----|
|                        | L         | T   | R  | L         | T  | R  | L          | T  | R  | L          | T  | R  |
| Movement               |           |     |    |           |    |    |            |    |    |            |    |    |
| Volume                 |           | 119 | 78 | 3         | 63 |    | 44         |    | 4  |            |    |    |
| % Thrus in Shared Lane |           |     |    |           |    |    |            |    |    |            |    |    |
| Lane                   | L1        | L2  | L3 | L1        | L2 | L3 | L1         | L2 | L3 | L1         | L2 | L3 |
| Configuration          | TR        |     |    | LT        |    |    | LR         |    |    |            |    |    |
| Flow Rate, v (veh/h)   | 214       |     |    | 72        |    |    | 52         |    |    |            |    |    |
| Percent Heavy Vehicles | 3         |     |    | 3         |    |    | 3          |    |    |            |    |    |

**Departure Headway and Service Time**

|                                   |       |  |  |       |  |  |       |  |  |  |  |  |
|-----------------------------------|-------|--|--|-------|--|--|-------|--|--|--|--|--|
| Initial Departure Headway, hd (s) | 3.20  |  |  | 3.20  |  |  | 3.20  |  |  |  |  |  |
| Initial Degree of Utilization, x  | 0.190 |  |  | 0.064 |  |  | 0.046 |  |  |  |  |  |
| Final Departure Headway, hd (s)   | 3.91  |  |  | 4.29  |  |  | 4.67  |  |  |  |  |  |
| Final Degree of Utilization, x    | 0.233 |  |  | 0.085 |  |  | 0.068 |  |  |  |  |  |
| Move-Up Time, m (s)               | 2.0   |  |  | 2.0   |  |  | 2.0   |  |  |  |  |  |
| Service Time, ts (s)              | 1.91  |  |  | 2.29  |  |  | 2.67  |  |  |  |  |  |

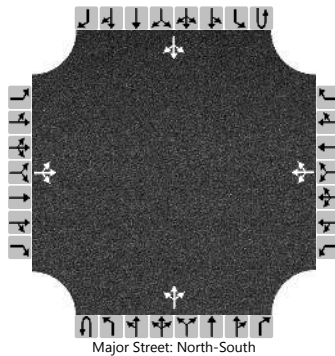
**Capacity, Delay and Level of Service**

|   |     |  |  |     |  |  |     |  |  |  |  |  |
|---|-----|--|--|-----|--|--|-----|--|--|--|--|--|
| Flow Rate, v (veh/h)                    | 214 |  |  | 72  |  |  | 52  |  |  |  |  |  |
| Capacity                                | 920 |  |  | 840 |  |  | 770 |  |  |  |  |  |
| 95% Queue Length, Q <sub>95</sub> (veh) | 0.9 |  |  | 0.3 |  |  | 0.2 |  |  |  |  |  |
| Control Delay (s/veh)                   | 8.1 |  |  | 7.7 |  |  | 8.0 |  |  |  |  |  |
| Level of Service, LOS                   | A   |  |  | A   |  |  | A   |  |  |  |  |  |
| Approach Delay (s/veh)                  | 8.1 |  |  | 7.7 |  |  | 8.0 |  |  |  |  |  |
| Approach LOS                            | A   |  |  | A   |  |  | A   |  |  |  |  |  |
| Intersection Delay, s/veh   LOS         | 8.0 |  |  |     |  |  | A   |  |  |  |  |  |

# HCS7 Two-Way Stop-Control Report

| General Information      |  |  |  | Site Information           |                    |  |  |
|--------------------------|--|--|--|----------------------------|--------------------|--|--|
| Analyst                  | Chris Hawkins                          |  |  | Intersection               | Village/Polaris Rd |  |  |
| Agency/Co.               | LSC                                    |  |  | Jurisdiction               |                    |  |  |
| Date Performed           | 3/5/2019                               |  |  | East/West Street           | Polaris rd         |  |  |
| Analysis Year            | 2019                                   |  |  | North/South Street         | Village Rd         |  |  |
| Time Analyzed            | PM                                     |  |  | Peak Hour Factor           | 0.92               |  |  |
| Intersection Orientation | North-South                            |  |  | Analysis Time Period (hrs) | 0.25               |  |  |
| Project Description      | Tahoe XC Winter PM Existing PP Ex Site |  |  |                            |                    |  |  |

## Lanes



## Vehicle Volumes and Adjustments

| Approach                   | Eastbound |    |     |    | Westbound |   |     |   | Northbound |    |     |   | Southbound |   |     |   |
|----------------------------|-----------|----|-----|----|-----------|---|-----|---|------------|----|-----|---|------------|---|-----|---|
|                            | U         | L  | T   | R  | U         | L | T   | R | U          | L  | T   | R | U          | L | T   | R |
| Movement                   |           |    |     |    |           |   |     |   |            |    |     |   |            |   |     |   |
| Priority                   |           | 10 | 11  | 12 |           | 7 | 8   | 9 | 1U         | 1  | 2   | 3 | 4U         | 4 | 5   | 6 |
| Number of Lanes            |           | 0  | 1   | 0  |           | 0 | 1   | 0 | 0          | 0  | 1   | 0 | 0          | 0 | 1   | 0 |
| Configuration              |           |    | LTR |    |           |   | LTR |   |            |    | LTR |   |            |   | LTR |   |
| Volume (veh/h)             |           | 4  | 0   | 98 |           | 0 | 0   | 0 |            | 53 | 112 | 0 |            | 0 | 40  | 2 |
| Percent Heavy Vehicles (%) |           | 3  | 3   | 3  |           | 3 | 3   | 3 |            | 3  |     |   |            | 3 |     |   |
| Proportion Time Blocked    |           |    |     |    |           |   |     |   |            |    |     |   |            |   |     |   |
| Percent Grade (%)          | 0         |    |     |    | -5        |   |     |   |            |    |     |   |            |   |     |   |
| Right Turn Channelized     |           |    |     |    |           |   |     |   |            |    |     |   |            |   |     |   |
| Median Type   Storage      | Undivided |    |     |    |           |   |     |   |            |    |     |   |            |   |     |   |

## Critical and Follow-up Headways

|                              |  |      |      |      |  |      |      |      |  |      |  |  |  |      |  |  |
|------------------------------|--|------|------|------|--|------|------|------|--|------|--|--|--|------|--|--|
| Base Critical Headway (sec)  |  | 7.1  | 6.5  | 6.2  |  | 7.1  | 6.5  | 6.2  |  | 4.1  |  |  |  | 4.1  |  |  |
| Critical Headway (sec)       |  | 7.13 | 6.53 | 6.23 |  | 6.13 | 5.53 | 5.73 |  | 4.13 |  |  |  | 4.13 |  |  |
| Base Follow-Up Headway (sec) |  | 3.5  | 4.0  | 3.3  |  | 3.5  | 4.0  | 3.3  |  | 2.2  |  |  |  | 2.2  |  |  |
| Follow-Up Headway (sec)      |  | 3.53 | 4.03 | 3.33 |  | 3.53 | 4.03 | 3.33 |  | 2.23 |  |  |  | 2.23 |  |  |

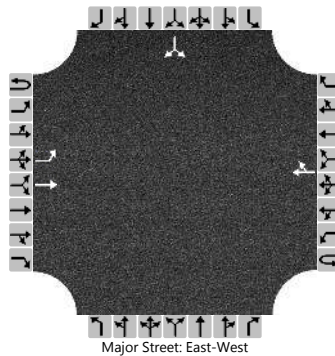
## Delay, Queue Length, and Level of Service

|   |     |  |      |  |  |  |   |  |     |      |  |  |     |      |  |  |
|---|-----|--|------|--|--|--|---|--|-----|------|--|--|-----|------|--|--|
| Flow Rate, v (veh/h)                    |     |  | 111  |  |  |  | 0 |  |     | 58   |  |  |     | 0    |  |  |
| Capacity, c (veh/h)                     |     |  | 1000 |  |  |  |   |  |     | 1556 |  |  |     | 1459 |  |  |
| v/c Ratio                               |     |  | 0.11 |  |  |  |   |  |     | 0.04 |  |  |     | 0.00 |  |  |
| 95% Queue Length, Q <sub>95</sub> (veh) |     |  | 0.4  |  |  |  |   |  |     | 0.1  |  |  |     | 0.0  |  |  |
| Control Delay (s/veh)                   |     |  | 9.0  |  |  |  |   |  |     | 7.4  |  |  |     | 7.5  |  |  |
| Level of Service (LOS)                  |     |  | A    |  |  |  |   |  |     | A    |  |  |     | A    |  |  |
| Approach Delay (s/veh)                  | 9.0 |  |      |  |  |  |   |  | 2.6 |      |  |  | 0.0 |      |  |  |
| Approach LOS                            | A   |  |      |  |  |  |   |  |     |      |  |  |     |      |  |  |

# HCS7 Two-Way Stop-Control Report

| General Information      |  |  |  | Site Information           |            |  |  |
|--------------------------|--|--|--|----------------------------|------------|--|--|
| Analyst                  | Chris Hawkins                          |  |  | Intersection               | SR28Fabian |  |  |
| Agency/Co.               | LSC                                    |  |  | Jurisdiction               |            |  |  |
| Date Performed           | 3/5/2019                               |  |  | East/West Street           | SR 28      |  |  |
| Analysis Year            | 2019                                   |  |  | North/South Street         | Fabian Way |  |  |
| Time Analyzed            | 2                                      |  |  | Peak Hour Factor           | 0.92       |  |  |
| Intersection Orientation | East-West                              |  |  | Analysis Time Period (hrs) | 0.25       |  |  |
| Project Description      | Tahoe XC Winter PM Existing PP Ex Site |  |  |                            |            |  |  |

## Lanes



## Vehicle Volumes and Adjustments

| Approach                   | Eastbound |    |     |   | Westbound |   |     |    | Northbound |   |   |   | Southbound |    |    |    |
|----------------------------|-----------|----|-----|---|-----------|---|-----|----|------------|---|---|---|------------|----|----|----|
|                            | U         | L  | T   | R | U         | L | T   | R  | U          | L | T | R | U          | L  | T  | R  |
| Movement                   | 1U        | 1  | 2   | 3 | 4U        | 4 | 5   | 6  |            | 7 | 8 | 9 |            | 10 | 11 | 12 |
| Priority                   |           |    |     |   |           |   |     |    |            |   |   |   |            |    |    |    |
| Number of Lanes            | 0         | 1  | 1   | 0 | 0         | 0 | 1   | 0  |            | 0 | 0 | 0 |            | 0  | 1  | 0  |
| Configuration              |           | L  | T   |   |           |   |     | TR |            |   |   |   |            |    | LR |    |
| Volume (veh/h)             |           | 72 | 635 |   |           |   | 419 | 81 |            |   |   |   |            | 70 |    | 66 |
| Percent Heavy Vehicles (%) |           | 3  |     |   |           |   |     |    |            |   |   |   |            | 3  |    | 3  |
| Proportion Time Blocked    |           |    |     |   |           |   |     |    |            |   |   |   |            |    |    |    |
| Percent Grade (%)          |           |    |     |   |           |   |     |    |            |   |   |   |            | -8 |    |    |
| Right Turn Channelized     |           |    |     |   |           |   |     |    |            |   |   |   |            |    |    |    |
| Median Type   Storage      |           |    |     |   | Left Only |   |     |    |            |   |   |   | 1          |    |    |    |

## Critical and Follow-up Headways

|                              |  |      |  |  |  |  |  |  |  |  |  |  |  |      |  |      |
|------------------------------|--|------|--|--|--|--|--|--|--|--|--|--|--|------|--|------|
| Base Critical Headway (sec)  |  | 4.1  |  |  |  |  |  |  |  |  |  |  |  | 7.1  |  | 6.2  |
| Critical Headway (sec)       |  | 4.13 |  |  |  |  |  |  |  |  |  |  |  | 4.83 |  | 5.43 |
| Base Follow-Up Headway (sec) |  | 2.2  |  |  |  |  |  |  |  |  |  |  |  | 3.5  |  | 3.3  |
| Follow-Up Headway (sec)      |  | 2.23 |  |  |  |  |  |  |  |  |  |  |  | 3.53 |  | 3.33 |

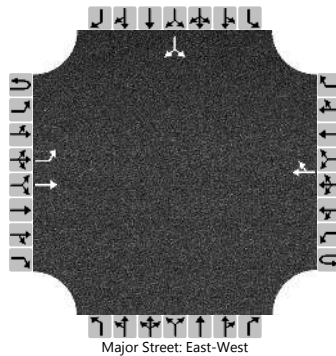
## Delay, Queue Length, and Level of Service

|   |  |      |  |  |  |  |  |  |  |  |  |  |   |      |  |      |  |
|---|--|------|--|--|--|--|--|--|--|--|--|--|---|------|--|------|--|
| Flow Rate, v (veh/h)                    |  | 78   |  |  |  |  |  |  |  |  |  |  |   |      |  | 148  |  |
| Capacity, c (veh/h)                     |  | 1017 |  |  |  |  |  |  |  |  |  |  |   |      |  | 810  |  |
| v/c Ratio                               |  | 0.08 |  |  |  |  |  |  |  |  |  |  |   |      |  | 0.18 |  |
| 95% Queue Length, Q <sub>95</sub> (veh) |  | 0.2  |  |  |  |  |  |  |  |  |  |  |   |      |  | 0.7  |  |
| Control Delay (s/veh)                   |  | 8.8  |  |  |  |  |  |  |  |  |  |  |   |      |  | 10.4 |  |
| Level of Service (LOS)                  |  | A    |  |  |  |  |  |  |  |  |  |  |   |      |  | B    |  |
| Approach Delay (s/veh)                  |  | 0.9  |  |  |  |  |  |  |  |  |  |  |   | 10.4 |  |      |  |
| Approach LOS                            |  |      |  |  |  |  |  |  |  |  |  |  | B |      |  |      |  |

# HCS7 Two-Way Stop-Control Report

| General Information      |   |  |  | Site Information           |                |  |  |
|--------------------------|---|--|--|----------------------------|----------------|--|--|
| Analyst                  | Chris Hawkins                                 |  |  | Intersection               | Old Mill/SR 28 |  |  |
| Agency/Co.               | LSC   |  |  | Jurisdiction               |                |  |  |
| Date Performed           | 3/5/2019                                      |  |  | East/West Street           | SR28           |  |  |
| Analysis Year            | 2019  |  |  | North/South Street         | Old Mill       |  |  |
| Time Analyzed            |   |  |  | Peak Hour Factor           | 0.92           |  |  |
| Intersection Orientation | East-West                                     |  |  | Analysis Time Period (hrs) | 0.25           |  |  |
| Project Description      | Tahoe XC Winter Existing PP - Weekend Ex Site |  |  |                            |                |  |  |

## Lanes



## Vehicle Volumes and Adjustments

| Approach                   | Eastbound |    |     |   | Westbound |   |     |    | Northbound |   |   |   | Southbound |    |    |     |
|----------------------------|-----------|----|-----|---|-----------|---|-----|----|------------|---|---|---|------------|----|----|-----|
|                            | U         | L  | T   | R | U         | L | T   | R  | U          | L | T | R | U          | L  | T  | R   |
| Movement                   | 1U        | 1  | 2   | 3 | 4U        | 4 | 5   | 6  |            | 7 | 8 | 9 |            | 10 | 11 | 12  |
| Priority                   |           |    |     |   |           |   |     |    |            |   |   |   |            |    |    |     |
| Number of Lanes            | 0         | 1  | 1   | 0 | 0         | 0 | 1   | 0  |            | 0 | 0 | 0 |            | 0  | 1  | 0   |
| Configuration              |           | L  | T   |   |           |   |     | TR |            |   |   |   |            |    | LR |     |
| Volume (veh/h)             |           | 23 | 684 |   |           |   | 487 | 2  |            |   |   |   |            | 4  |    | 26  |
| Percent Heavy Vehicles (%) |           | 3  |     |   |           |   |     |    |            |   |   |   |            | 3  |    | 3   |
| Proportion Time Blocked    |           |    |     |   |           |   |     |    |            |   |   |   |            |    |    |     |
| Percent Grade (%)          |           |    |     |   |           |   |     |    |            |   |   |   |            |    |    | -10 |
| Right Turn Channelized     |           |    |     |   |           |   |     |    |            |   |   |   |            |    |    |     |
| Median Type   Storage      | Undivided |    |     |   |           |   |     |    |            |   |   |   |            |    |    |     |

## Critical and Follow-up Headways

|                              |  |      |  |  |  |  |  |  |  |  |  |  |  |      |  |      |
|------------------------------|--|------|--|--|--|--|--|--|--|--|--|--|--|------|--|------|
| Base Critical Headway (sec)  |  | 4.1  |  |  |  |  |  |  |  |  |  |  |  | 7.1  |  | 6.2  |
| Critical Headway (sec)       |  | 4.13 |  |  |  |  |  |  |  |  |  |  |  | 4.43 |  | 5.23 |
| Base Follow-Up Headway (sec) |  | 2.2  |  |  |  |  |  |  |  |  |  |  |  | 3.5  |  | 3.3  |
| Follow-Up Headway (sec)      |  | 2.23 |  |  |  |  |  |  |  |  |  |  |  | 3.53 |  | 3.33 |

## Delay, Queue Length, and Level of Service

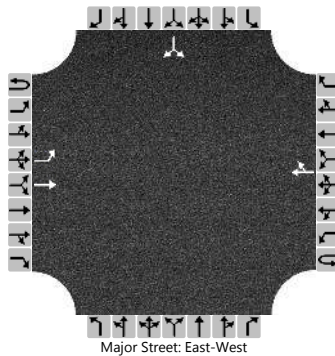
|   |  |      |  |  |  |  |  |  |  |  |  |  |  |      |  |      |  |
|---|--|------|--|--|--|--|--|--|--|--|--|--|--|------|--|------|--|
| Flow Rate, v (veh/h)                    |  | 25   |  |  |  |  |  |  |  |  |  |  |  |      |  | 33   |  |
| Capacity, c (veh/h)                     |  | 1031 |  |  |  |  |  |  |  |  |  |  |  |      |  | 722  |  |
| v/c Ratio                               |  | 0.02 |  |  |  |  |  |  |  |  |  |  |  |      |  | 0.05 |  |
| 95% Queue Length, Q <sub>95</sub> (veh) |  | 0.1  |  |  |  |  |  |  |  |  |  |  |  |      |  | 0.1  |  |
| Control Delay (s/veh)                   |  | 8.6  |  |  |  |  |  |  |  |  |  |  |  |      |  | 10.2 |  |
| Level of Service (LOS)                  |  | A    |  |  |  |  |  |  |  |  |  |  |  |      |  | B    |  |
| Approach Delay (s/veh)                  |  | 0.3  |  |  |  |  |  |  |  |  |  |  |  | 10.2 |  |      |  |
| Approach LOS                            |  |      |  |  |  |  |  |  |  |  |  |  |  | B    |  |      |  |



# HCS7 Two-Way Stop-Control Report

| General Information      |                           |  |  | Site Information           |            |  |  |
|--------------------------|---------------------------|--|--|----------------------------|------------|--|--|
| Analyst                  | Chris Hawkins             |  |  | Intersection               | SR28Fabian |  |  |
| Agency/Co.               | LSC                       |  |  | Jurisdiction               |            |  |  |
| Date Performed           | 2/26/2019                 |  |  | East/West Street           | SR 28      |  |  |
| Analysis Year            | 2018                      |  |  | North/South Street         | Fabian Way |  |  |
| Time Analyzed            | 2                         |  |  | Peak Hour Factor           | 0.92       |  |  |
| Intersection Orientation | East-West                 |  |  | Analysis Time Period (hrs) | 0.25       |  |  |
| Project Description      | Tahoe XC Summer Future NP |  |  |                            |            |  |  |

## Lanes



## Vehicle Volumes and Adjustments

| Approach                   | Eastbound |    |     |   | Westbound |   |     |    | Northbound |   |   |   | Southbound |    |    |    |
|----------------------------|-----------|----|-----|---|-----------|---|-----|----|------------|---|---|---|------------|----|----|----|
|                            | U         | L  | T   | R | U         | L | T   | R  | U          | L | T | R | U          | L  | T  | R  |
| Movement                   | 1U        | 1  | 2   | 3 | 4U        | 4 | 5   | 6  |            | 7 | 8 | 9 |            | 10 | 11 | 12 |
| Priority                   |           |    |     |   |           |   |     |    |            |   |   |   |            |    |    |    |
| Number of Lanes            | 0         | 1  | 1   | 0 | 0         | 0 | 1   | 0  |            | 0 | 0 | 0 |            | 0  | 1  | 0  |
| Configuration              |           | L  | T   |   |           |   |     | TR |            |   |   |   |            |    | LR |    |
| Volume (veh/h)             |           | 51 | 777 |   |           |   | 530 | 41 |            |   |   |   |            | 38 |    | 38 |
| Percent Heavy Vehicles (%) |           | 3  |     |   |           |   |     |    |            |   |   |   |            | 3  |    | 3  |
| Proportion Time Blocked    |           |    |     |   |           |   |     |    |            |   |   |   |            |    |    |    |
| Percent Grade (%)          |           |    |     |   |           |   |     |    |            |   |   |   |            |    |    | -8 |
| Right Turn Channelized     |           |    |     |   |           |   |     |    |            |   |   |   |            |    |    |    |
| Median Type   Storage      |           |    |     |   | Left Only |   |     |    |            |   |   |   | 1          |    |    |    |

## Critical and Follow-up Headways

|                              |  |      |  |  |  |  |  |  |  |  |  |  |  |      |  |      |
|------------------------------|--|------|--|--|--|--|--|--|--|--|--|--|--|------|--|------|
| Base Critical Headway (sec)  |  | 4.1  |  |  |  |  |  |  |  |  |  |  |  | 7.1  |  | 6.2  |
| Critical Headway (sec)       |  | 4.13 |  |  |  |  |  |  |  |  |  |  |  | 4.83 |  | 5.43 |
| Base Follow-Up Headway (sec) |  | 2.2  |  |  |  |  |  |  |  |  |  |  |  | 3.5  |  | 3.3  |
| Follow-Up Headway (sec)      |  | 2.23 |  |  |  |  |  |  |  |  |  |  |  | 3.53 |  | 3.33 |

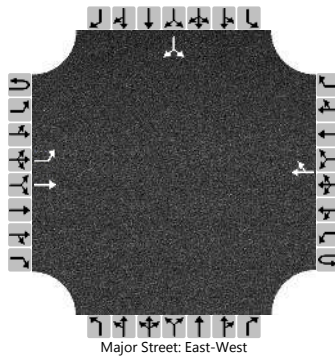
## Delay, Queue Length, and Level of Service

|   |  |      |  |  |  |  |  |  |  |  |  |  |  |      |  |      |  |
|---|--|------|--|--|--|--|--|--|--|--|--|--|--|------|--|------|--|
| Flow Rate, v (veh/h)                    |  | 55   |  |  |  |  |  |  |  |  |  |  |  |      |  | 83   |  |
| Capacity, c (veh/h)                     |  | 952  |  |  |  |  |  |  |  |  |  |  |  |      |  | 763  |  |
| v/c Ratio                               |  | 0.06 |  |  |  |  |  |  |  |  |  |  |  |      |  | 0.11 |  |
| 95% Queue Length, Q <sub>95</sub> (veh) |  | 0.2  |  |  |  |  |  |  |  |  |  |  |  |      |  | 0.4  |  |
| Control Delay (s/veh)                   |  | 9.0  |  |  |  |  |  |  |  |  |  |  |  |      |  | 10.3 |  |
| Level of Service (LOS)                  |  | A    |  |  |  |  |  |  |  |  |  |  |  |      |  | B    |  |
| Approach Delay (s/veh)                  |  | 0.6  |  |  |  |  |  |  |  |  |  |  |  | 10.3 |  |      |  |
| Approach LOS                            |  |      |  |  |  |  |  |  |  |  |  |  |  | B    |  |      |  |

# HCS7 Two-Way Stop-Control Report

| General Information      |                           |  |  | Site Information           |                |  |  |
|--------------------------|---------------------------|--|--|----------------------------|----------------|--|--|
| Analyst                  | Chris Hawkins             |  |  | Intersection               | Old Mill/SR 28 |  |  |
| Agency/Co.               | LSC                       |  |  | Jurisdiction               |                |  |  |
| Date Performed           | 2/28/2019                 |  |  | East/West Street           | SR28           |  |  |
| Analysis Year            | 2019                      |  |  | North/South Street         | Old Mill       |  |  |
| Time Analyzed            |                           |  |  | Peak Hour Factor           | 0.92           |  |  |
| Intersection Orientation | East-West                 |  |  | Analysis Time Period (hrs) | 0.25           |  |  |
| Project Description      | Tahoe XC Summer Future NP |  |  |                            |                |  |  |

## Lanes



## Vehicle Volumes and Adjustments

| Approach                   | Eastbound |    |     |   | Westbound |   |     |    | Northbound |   |   |   | Southbound |    |    |    |
|----------------------------|-----------|----|-----|---|-----------|---|-----|----|------------|---|---|---|------------|----|----|----|
|                            | U         | L  | T   | R | U         | L | T   | R  | U          | L | T | R | U          | L  | T  | R  |
| Movement                   | 1U        | 1  | 2   | 3 | 4U        | 4 | 5   | 6  |            | 7 | 8 | 9 |            | 10 | 11 | 12 |
| Priority                   |           |    |     |   |           |   |     |    |            |   |   |   |            |    |    |    |
| Number of Lanes            | 0         | 1  | 1   | 0 | 0         | 0 | 1   | 0  |            | 0 | 0 | 0 |            | 0  | 1  | 0  |
| Configuration              |           | L  | T   |   |           |   |     | TR |            |   |   |   |            |    | LR |    |
| Volume (veh/h)             |           | 38 | 790 |   |           |   | 520 | 11 |            |   |   |   |            | 3  |    | 26 |
| Percent Heavy Vehicles (%) |           | 3  |     |   |           |   |     |    |            |   |   |   |            | 3  |    | 3  |
| Proportion Time Blocked    |           |    |     |   |           |   |     |    |            |   |   |   |            |    |    |    |
| Percent Grade (%)          |           |    |     |   |           |   |     |    |            |   |   |   | -10        |    |    |    |
| Right Turn Channelized     |           |    |     |   |           |   |     |    |            |   |   |   |            |    |    |    |
| Median Type   Storage      | Undivided |    |     |   |           |   |     |    |            |   |   |   |            |    |    |    |

## Critical and Follow-up Headways

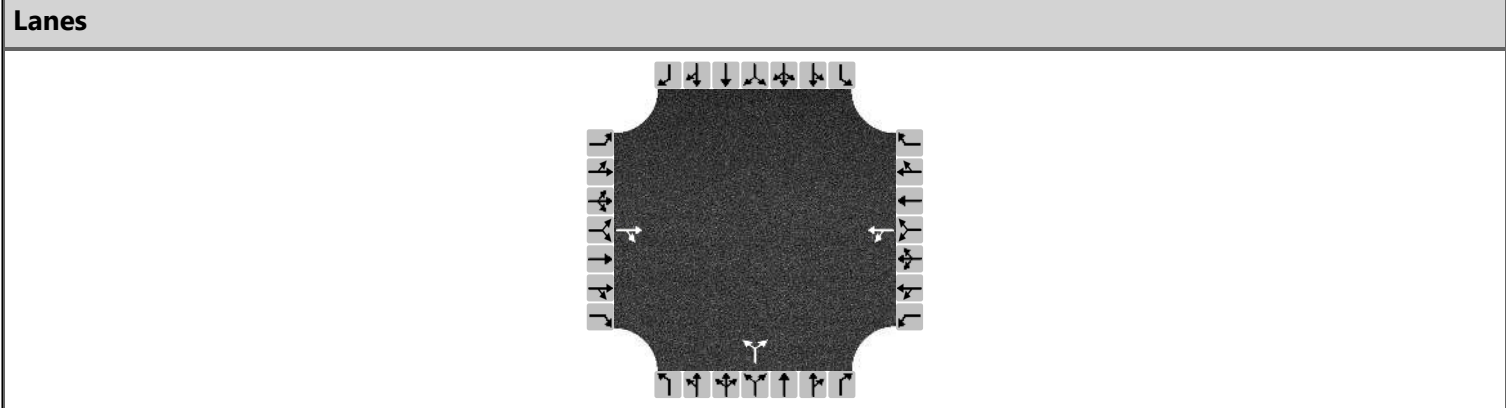
|                              |  |      |  |  |  |  |  |  |  |  |  |  |  |      |  |      |
|------------------------------|--|------|--|--|--|--|--|--|--|--|--|--|--|------|--|------|
| Base Critical Headway (sec)  |  | 4.1  |  |  |  |  |  |  |  |  |  |  |  | 7.1  |  | 6.2  |
| Critical Headway (sec)       |  | 4.13 |  |  |  |  |  |  |  |  |  |  |  | 4.43 |  | 5.23 |
| Base Follow-Up Headway (sec) |  | 2.2  |  |  |  |  |  |  |  |  |  |  |  | 3.5  |  | 3.3  |
| Follow-Up Headway (sec)      |  | 2.23 |  |  |  |  |  |  |  |  |  |  |  | 3.53 |  | 3.33 |

## Delay, Queue Length, and Level of Service

|   |     |      |  |  |  |  |  |  |  |  |  |  |      |  |      |  |
|---|-----|------|--|--|--|--|--|--|--|--|--|--|------|--|------|--|
| Flow Rate, v (veh/h)                    |     | 41   |  |  |  |  |  |  |  |  |  |  |      |  | 32   |  |
| Capacity, c (veh/h)                     |     | 991  |  |  |  |  |  |  |  |  |  |  |      |  | 669  |  |
| v/c Ratio                               |     | 0.04 |  |  |  |  |  |  |  |  |  |  |      |  | 0.05 |  |
| 95% Queue Length, Q <sub>95</sub> (veh) |     | 0.1  |  |  |  |  |  |  |  |  |  |  |      |  | 0.1  |  |
| Control Delay (s/veh)                   |     | 8.8  |  |  |  |  |  |  |  |  |  |  |      |  | 10.6 |  |
| Level of Service (LOS)                  |     | A    |  |  |  |  |  |  |  |  |  |  |      |  | B    |  |
| Approach Delay (s/veh)                  | 0.4 |      |  |  |  |  |  |  |  |  |  |  | 10.6 |  |      |  |
| Approach LOS                            |     |      |  |  |  |  |  |  |  |  |  |  | B    |  |      |  |

# HCS7 All-Way Stop Control Report

| General Information        |                           | Site Information   |                     |
|----------------------------|---------------------------|--------------------|---------------------|
| Analyst                    | Chris Hawkins             | Intersection       | Polaris/Old Mill Rd |
| Agency/Co.                 | LSC                       | Jurisdiction       |                     |
| Date Performed             | 3/22/2019                 | East/West Street   | Polaris             |
| Analysis Year              | 2019                      | North/South Street | Old Mill            |
| Analysis Time Period (hrs) | 0.25                      | Peak Hour Factor   | 0.92                |
| Time Analyzed              |                           |                    |                     |
| Project Description        | Tahoe XC Summer Future NP |                    |                     |



**Vehicle Volume and Adjustments**

| Approach               | Eastbound |    |    | Westbound |    |    | Northbound |    |    | Southbound |    |    |
|------------------------|-----------|----|----|-----------|----|----|------------|----|----|------------|----|----|
|                        | L         | T  | R  | L         | T  | R  | L          | T  | R  | L          | T  | R  |
| Movement               |           |    |    |           |    |    |            |    |    |            |    |    |
| Volume                 |           | 9  | 17 | 3         | 9  |    | 12         |    | 6  |            |    |    |
| % Thrus in Shared Lane |           |    |    |           |    |    |            |    |    |            |    |    |
| Lane                   | L1        | L2 | L3 | L1        | L2 | L3 | L1         | L2 | L3 | L1         | L2 | L3 |
| Configuration          | TR        |    |    | LT        |    |    | LR         |    |    |            |    |    |
| Flow Rate, v (veh/h)   | 28        |    |    | 13        |    |    | 20         |    |    |            |    |    |
| Percent Heavy Vehicles | 3         |    |    | 3         |    |    | 3          |    |    |            |    |    |

**Departure Headway and Service Time**

|                                   |       |  |  |       |  |  |       |  |  |  |  |  |
|-----------------------------------|-------|--|--|-------|--|--|-------|--|--|--|--|--|
| Initial Departure Headway, hd (s) | 3.20  |  |  | 3.20  |  |  | 3.20  |  |  |  |  |  |
| Initial Degree of Utilization, x  | 0.025 |  |  | 0.012 |  |  | 0.017 |  |  |  |  |  |
| Final Departure Headway, hd (s)   | 3.61  |  |  | 4.07  |  |  | 3.97  |  |  |  |  |  |
| Final Degree of Utilization, x    | 0.028 |  |  | 0.015 |  |  | 0.022 |  |  |  |  |  |
| Move-Up Time, m (s)               | 2.0   |  |  | 2.0   |  |  | 2.0   |  |  |  |  |  |
| Service Time, ts (s)              | 1.61  |  |  | 2.07  |  |  | 1.97  |  |  |  |  |  |

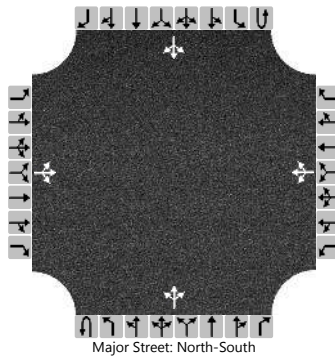
**Capacity, Delay and Level of Service**

|   |     |  |  |     |  |  |     |  |  |  |  |  |
|---|-----|--|--|-----|--|--|-----|--|--|--|--|--|
| Flow Rate, v (veh/h)                    | 28  |  |  | 13  |  |  | 20  |  |  |  |  |  |
| Capacity                                | 996 |  |  | 885 |  |  | 908 |  |  |  |  |  |
| 95% Queue Length, Q <sub>95</sub> (veh) | 0.1 |  |  | 0.0 |  |  | 0.1 |  |  |  |  |  |
| Control Delay (s/veh)                   | 6.7 |  |  | 7.1 |  |  | 7.1 |  |  |  |  |  |
| Level of Service, LOS                   | A   |  |  | A   |  |  | A   |  |  |  |  |  |
| Approach Delay (s/veh)                  | 6.7 |  |  | 7.1 |  |  | 7.1 |  |  |  |  |  |
| Approach LOS                            | A   |  |  | A   |  |  | A   |  |  |  |  |  |
| Intersection Delay, s/veh   LOS         | 6.9 |  |  |     |  |  | A   |  |  |  |  |  |

# HCS7 Two-Way Stop-Control Report

| General Information      |                           |  |  | Site Information           |                    |  |  |
|--------------------------|---------------------------|--|--|----------------------------|--------------------|--|--|
| Analyst                  | Chris Hawkins             |  |  | Intersection               | Village/Polaris Rd |  |  |
| Agency/Co.               | LSC                       |  |  | Jurisdiction               |                    |  |  |
| Date Performed           | 2/28/2019                 |  |  | East/West Street           | Polaris rd         |  |  |
| Analysis Year            | 2019                      |  |  | North/South Street         | Village Rd         |  |  |
| Time Analyzed            |                           |  |  | Peak Hour Factor           | 0.92               |  |  |
| Intersection Orientation | North-South               |  |  | Analysis Time Period (hrs) | 0.25               |  |  |
| Project Description      | Tahoe XC Summer Future NP |  |  |                            |                    |  |  |

## Lanes



## Vehicle Volumes and Adjustments

| Approach                   | Eastbound |           |     |    | Westbound |    |     |   | Northbound |    |     |   | Southbound |   |     |   |
|----------------------------|-----------|-----------|-----|----|-----------|----|-----|---|------------|----|-----|---|------------|---|-----|---|
|                            | U         | L         | T   | R  | U         | L  | T   | R | U          | L  | T   | R | U          | L | T   | R |
| Priority                   |           | 10        | 11  | 12 |           | 7  | 8   | 9 | 1U         | 1  | 2   | 3 | 4U         | 4 | 5   | 6 |
| Number of Lanes            |           | 0         | 1   | 0  |           | 0  | 1   | 0 | 0          | 0  | 1   | 0 | 0          | 0 | 1   | 0 |
| Configuration              |           |           | LTR |    |           |    | LTR |   |            |    | LTR |   |            |   | LTR |   |
| Volume (veh/h)             |           | 1         | 0   | 8  |           | 4  | 0   | 0 |            | 13 | 17  | 3 |            | 0 | 19  | 2 |
| Percent Heavy Vehicles (%) |           | 3         | 3   | 3  |           | 3  | 3   | 3 |            | 3  |     |   |            | 3 |     |   |
| Proportion Time Blocked    |           |           |     |    |           |    |     |   |            |    |     |   |            |   |     |   |
| Percent Grade (%)          |           | 0         |     |    |           | -5 |     |   |            |    |     |   |            |   |     |   |
| Right Turn Channelized     |           |           |     |    |           |    |     |   |            |    |     |   |            |   |     |   |
| Median Type   Storage      |           | Undivided |     |    |           |    |     |   |            |    |     |   |            |   |     |   |

## Critical and Follow-up Headways

|                              |  |      |      |      |  |      |      |      |  |      |  |  |  |      |  |  |
|------------------------------|--|------|------|------|--|------|------|------|--|------|--|--|--|------|--|--|
| Base Critical Headway (sec)  |  | 7.1  | 6.5  | 6.2  |  | 7.1  | 6.5  | 6.2  |  | 4.1  |  |  |  | 4.1  |  |  |
| Critical Headway (sec)       |  | 7.13 | 6.53 | 6.23 |  | 6.13 | 5.53 | 5.73 |  | 4.13 |  |  |  | 4.13 |  |  |
| Base Follow-Up Headway (sec) |  | 3.5  | 4.0  | 3.3  |  | 3.5  | 4.0  | 3.3  |  | 2.2  |  |  |  | 2.2  |  |  |
| Follow-Up Headway (sec)      |  | 3.53 | 4.03 | 3.33 |  | 3.53 | 4.03 | 3.33 |  | 2.23 |  |  |  | 2.23 |  |  |

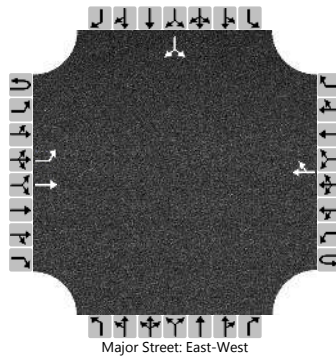
## Delay, Queue Length, and Level of Service

|   |  |     |      |  |  |     |      |  |  |     |  |  |  |      |  |  |  |
|---|--|-----|------|--|--|-----|------|--|--|-----|--|--|--|------|--|--|--|
| Flow Rate, v (veh/h)                    |  |     | 10   |  |  |     | 4    |  |  |     |  |  |  | 0    |  |  |  |
| Capacity, c (veh/h)                     |  |     | 1035 |  |  |     | 918  |  |  |     |  |  |  | 1587 |  |  |  |
| v/c Ratio                               |  |     | 0.01 |  |  |     | 0.00 |  |  |     |  |  |  | 0.00 |  |  |  |
| 95% Queue Length, Q <sub>95</sub> (veh) |  |     | 0.0  |  |  |     | 0.0  |  |  |     |  |  |  | 0.0  |  |  |  |
| Control Delay (s/veh)                   |  |     | 8.5  |  |  |     | 8.9  |  |  |     |  |  |  | 7.3  |  |  |  |
| Level of Service (LOS)                  |  |     | A    |  |  |     | A    |  |  |     |  |  |  | A    |  |  |  |
| Approach Delay (s/veh)                  |  | 8.5 |      |  |  | 8.9 |      |  |  | 2.9 |  |  |  | 0.0  |  |  |  |
| Approach LOS                            |  | A   |      |  |  | A   |      |  |  |     |  |  |  |      |  |  |  |

# HCS7 Two-Way Stop-Control Report

| General Information      |                           |  |  | Site Information           |            |  |  |
|--------------------------|---------------------------|--|--|----------------------------|------------|--|--|
| Analyst                  | Chris Hawkins             |  |  | Intersection               | SR28Fabian |  |  |
| Agency/Co.               | LSC                       |  |  | Jurisdiction               |            |  |  |
| Date Performed           | 2/28/2019                 |  |  | East/West Street           | SR 28      |  |  |
| Analysis Year            | 2019                      |  |  | North/South Street         | Fabian Way |  |  |
| Time Analyzed            | 2                         |  |  | Peak Hour Factor           | 0.92       |  |  |
| Intersection Orientation | East-West                 |  |  | Analysis Time Period (hrs) | 0.25       |  |  |
| Project Description      | Tahoe XC Winter Future NP |  |  |                            |            |  |  |

## Lanes



## Vehicle Volumes and Adjustments

| Approach                   | Eastbound |    |     |   | Westbound |   |     |    | Northbound |   |   |   | Southbound |    |    |    |
|----------------------------|-----------|----|-----|---|-----------|---|-----|----|------------|---|---|---|------------|----|----|----|
|                            | U         | L  | T   | R | U         | L | T   | R  | U          | L | T | R | U          | L  | T  | R  |
| Movement                   | 1U        | 1  | 2   | 3 | 4U        | 4 | 5   | 6  |            | 7 | 8 | 9 |            | 10 | 11 | 12 |
| Priority                   |           |    |     |   |           |   |     |    |            |   |   |   |            |    |    |    |
| Number of Lanes            | 0         | 1  | 1   | 0 | 0         | 0 | 1   | 0  |            | 0 | 0 | 0 |            | 0  | 1  | 0  |
| Configuration              |           | L  | T   |   |           |   |     | TR |            |   |   |   |            |    | LR |    |
| Volume (veh/h)             |           | 71 | 454 |   |           |   | 318 | 82 |            |   |   |   |            | 96 |    | 48 |
| Percent Heavy Vehicles (%) |           | 3  |     |   |           |   |     |    |            |   |   |   |            | 3  |    | 3  |
| Proportion Time Blocked    |           |    |     |   |           |   |     |    |            |   |   |   |            |    |    |    |
| Percent Grade (%)          |           |    |     |   |           |   |     |    |            |   |   |   |            |    |    | -8 |
| Right Turn Channelized     |           |    |     |   |           |   |     |    |            |   |   |   |            |    |    |    |
| Median Type   Storage      |           |    |     |   | Left Only |   |     |    |            |   |   |   | 1          |    |    |    |

## Critical and Follow-up Headways

|                              |  |      |  |  |  |  |  |  |  |  |  |  |  |      |  |      |
|------------------------------|--|------|--|--|--|--|--|--|--|--|--|--|--|------|--|------|
| Base Critical Headway (sec)  |  | 4.1  |  |  |  |  |  |  |  |  |  |  |  | 6.1  |  | 4.9  |
| Critical Headway (sec)       |  | 4.13 |  |  |  |  |  |  |  |  |  |  |  | 3.83 |  | 4.13 |
| Base Follow-Up Headway (sec) |  | 2.2  |  |  |  |  |  |  |  |  |  |  |  | 3.5  |  | 3.3  |
| Follow-Up Headway (sec)      |  | 2.23 |  |  |  |  |  |  |  |  |  |  |  | 3.53 |  | 3.33 |

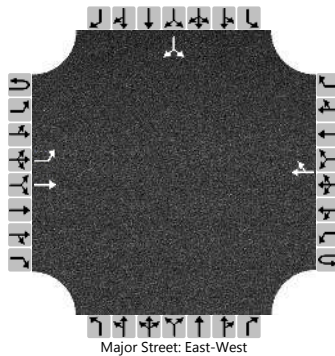
## Delay, Queue Length, and Level of Service

|   |  |      |  |  |  |  |  |  |  |  |  |  |   |      |  |      |  |
|---|--|------|--|--|--|--|--|--|--|--|--|--|---|------|--|------|--|
| Flow Rate, v (veh/h)                    |  | 77   |  |  |  |  |  |  |  |  |  |  |   |      |  | 157  |  |
| Capacity, c (veh/h)                     |  | 1116 |  |  |  |  |  |  |  |  |  |  |   |      |  | 819  |  |
| v/c Ratio                               |  | 0.07 |  |  |  |  |  |  |  |  |  |  |   |      |  | 0.19 |  |
| 95% Queue Length, Q <sub>95</sub> (veh) |  | 0.2  |  |  |  |  |  |  |  |  |  |  |   |      |  | 0.7  |  |
| Control Delay (s/veh)                   |  | 8.5  |  |  |  |  |  |  |  |  |  |  |   |      |  | 10.4 |  |
| Level of Service (LOS)                  |  | A    |  |  |  |  |  |  |  |  |  |  |   |      |  | B    |  |
| Approach Delay (s/veh)                  |  | 1.1  |  |  |  |  |  |  |  |  |  |  |   | 10.4 |  |      |  |
| Approach LOS                            |  |      |  |  |  |  |  |  |  |  |  |  | B |      |  |      |  |

# HCS7 Two-Way Stop-Control Report

| General Information      |                           |  |  | Site Information           |                |  |  |
|--------------------------|---------------------------|--|--|----------------------------|----------------|--|--|
| Analyst                  | Chris Hawkins             |  |  | Intersection               | Old Mill/SR 28 |  |  |
| Agency/Co.               | LSC                       |  |  | Jurisdiction               |                |  |  |
| Date Performed           | 2/28/2019                 |  |  | East/West Street           | SR28           |  |  |
| Analysis Year            | 2019                      |  |  | North/South Street         | Old Mill       |  |  |
| Time Analyzed            |                           |  |  | Peak Hour Factor           | 0.92           |  |  |
| Intersection Orientation | East-West                 |  |  | Analysis Time Period (hrs) | 0.25           |  |  |
| Project Description      | Tahoe XC Winter Future NP |  |  |                            |                |  |  |

## Lanes



## Vehicle Volumes and Adjustments

| Approach                   | Eastbound |    |     |   | Westbound |   |     |    | Northbound |   |   |   | Southbound |    |    |     |
|----------------------------|-----------|----|-----|---|-----------|---|-----|----|------------|---|---|---|------------|----|----|-----|
|                            | U         | L  | T   | R | U         | L | T   | R  | U          | L | T | R | U          | L  | T  | R   |
| Movement                   | 1U        | 1  | 2   | 3 | 4U        | 4 | 5   | 6  |            | 7 | 8 | 9 |            | 10 | 11 | 12  |
| Priority                   |           |    |     |   |           |   |     |    |            |   |   |   |            |    |    |     |
| Number of Lanes            | 0         | 1  | 1   | 0 | 0         | 0 | 1   | 0  |            | 0 | 0 | 0 |            | 0  | 1  | 0   |
| Configuration              |           | L  | T   |   |           |   |     | TR |            |   |   |   |            |    | LR |     |
| Volume (veh/h)             |           | 41 | 417 |   |           |   | 381 | 7  |            |   |   |   |            | 2  |    | 45  |
| Percent Heavy Vehicles (%) |           | 3  |     |   |           |   |     |    |            |   |   |   |            | 3  |    | 3   |
| Proportion Time Blocked    |           |    |     |   |           |   |     |    |            |   |   |   |            |    |    |     |
| Percent Grade (%)          |           |    |     |   |           |   |     |    |            |   |   |   |            |    |    | -10 |
| Right Turn Channelized     |           |    |     |   |           |   |     |    |            |   |   |   |            |    |    |     |
| Median Type   Storage      | Undivided |    |     |   |           |   |     |    |            |   |   |   |            |    |    |     |

## Critical and Follow-up Headways

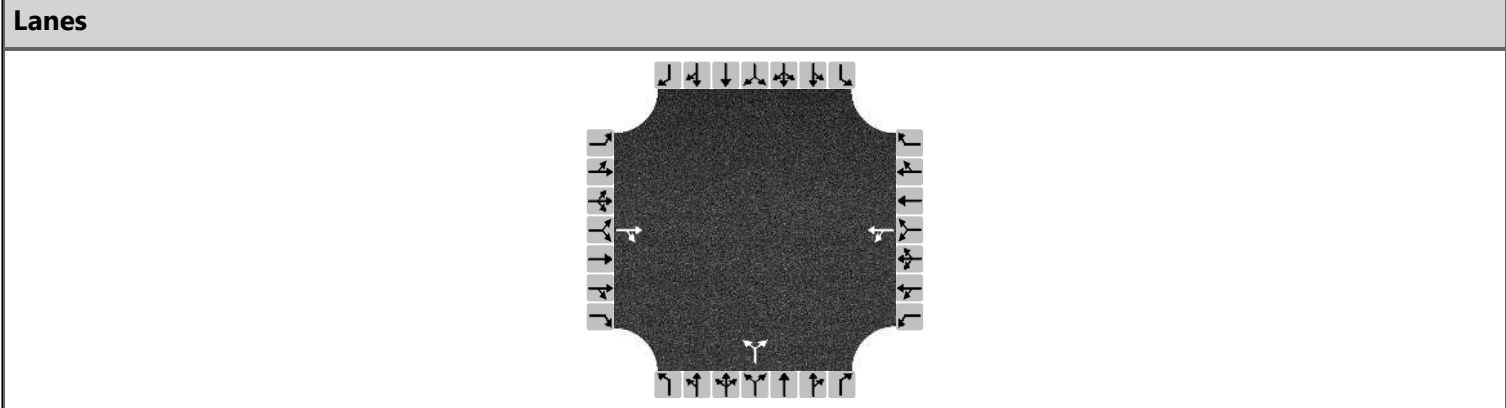
|                              |  |      |  |  |  |  |  |  |  |  |  |  |  |      |  |      |
|------------------------------|--|------|--|--|--|--|--|--|--|--|--|--|--|------|--|------|
| Base Critical Headway (sec)  |  | 4.1  |  |  |  |  |  |  |  |  |  |  |  | 7.1  |  | 6.2  |
| Critical Headway (sec)       |  | 4.13 |  |  |  |  |  |  |  |  |  |  |  | 4.43 |  | 5.23 |
| Base Follow-Up Headway (sec) |  | 2.2  |  |  |  |  |  |  |  |  |  |  |  | 3.5  |  | 3.3  |
| Follow-Up Headway (sec)      |  | 2.23 |  |  |  |  |  |  |  |  |  |  |  | 3.53 |  | 3.33 |

## Delay, Queue Length, and Level of Service

|   |  |      |  |  |  |  |  |  |  |  |  |  |  |      |      |  |  |
|---|--|------|--|--|--|--|--|--|--|--|--|--|--|------|------|--|--|
| Flow Rate, v (veh/h)                    |  | 45   |  |  |  |  |  |  |  |  |  |  |  |      | 51   |  |  |
| Capacity, c (veh/h)                     |  | 1132 |  |  |  |  |  |  |  |  |  |  |  |      | 734  |  |  |
| v/c Ratio                               |  | 0.04 |  |  |  |  |  |  |  |  |  |  |  |      | 0.07 |  |  |
| 95% Queue Length, Q <sub>95</sub> (veh) |  | 0.1  |  |  |  |  |  |  |  |  |  |  |  |      | 0.2  |  |  |
| Control Delay (s/veh)                   |  | 8.3  |  |  |  |  |  |  |  |  |  |  |  |      | 10.3 |  |  |
| Level of Service (LOS)                  |  | A    |  |  |  |  |  |  |  |  |  |  |  |      | B    |  |  |
| Approach Delay (s/veh)                  |  | 0.7  |  |  |  |  |  |  |  |  |  |  |  | 10.3 |      |  |  |
| Approach LOS                            |  |      |  |  |  |  |  |  |  |  |  |  |  | B    |      |  |  |

# HCS7 All-Way Stop Control Report

| General Information        |                              | Site Information   |                     |
|----------------------------|------------------------------|--------------------|---------------------|
| Analyst                    | Chris Hawkins                | Intersection       | Polaris/Old Mill Rd |
| Agency/Co.                 | LSC                          | Jurisdiction       |                     |
| Date Performed             | 3/22/2019                    | East/West Street   | Polaris             |
| Analysis Year              | 2019                         | North/South Street | Old Mill            |
| Analysis Time Period (hrs) | 0.25                         | Peak Hour Factor   | 0.92                |
| Time Analyzed              |                              |                    |                     |
| Project Description        | Tahoe XC Winter PM Future NP |                    |                     |



**Vehicle Volume and Adjustments**

| Approach               | Eastbound |     |    | Westbound |    |    | Northbound |    |    | Southbound |    |    |
|------------------------|-----------|-----|----|-----------|----|----|------------|----|----|------------|----|----|
|                        | L         | T   | R  | L         | T  | R  | L          | T  | R  | L          | T  | R  |
| Movement               |           |     |    |           |    |    |            |    |    |            |    |    |
| Volume                 |           | 119 | 78 | 3         | 63 |    | 44         |    | 4  |            |    |    |
| % Thrus in Shared Lane |           |     |    |           |    |    |            |    |    |            |    |    |
| Lane                   | L1        | L2  | L3 | L1        | L2 | L3 | L1         | L2 | L3 | L1         | L2 | L3 |
| Configuration          | TR        |     |    | LT        |    |    | LR         |    |    |            |    |    |
| Flow Rate, v (veh/h)   | 214       |     |    | 72        |    |    | 52         |    |    |            |    |    |
| Percent Heavy Vehicles | 3         |     |    | 3         |    |    | 3          |    |    |            |    |    |

**Departure Headway and Service Time**

|                                   |       |  |  |       |  |  |       |  |  |  |  |  |
|-----------------------------------|-------|--|--|-------|--|--|-------|--|--|--|--|--|
| Initial Departure Headway, hd (s) | 3.20  |  |  | 3.20  |  |  | 3.20  |  |  |  |  |  |
| Initial Degree of Utilization, x  | 0.190 |  |  | 0.064 |  |  | 0.046 |  |  |  |  |  |
| Final Departure Headway, hd (s)   | 3.91  |  |  | 4.29  |  |  | 4.67  |  |  |  |  |  |
| Final Degree of Utilization, x    | 0.233 |  |  | 0.085 |  |  | 0.068 |  |  |  |  |  |
| Move-Up Time, m (s)               | 2.0   |  |  | 2.0   |  |  | 2.0   |  |  |  |  |  |
| Service Time, ts (s)              | 1.91  |  |  | 2.29  |  |  | 2.67  |  |  |  |  |  |

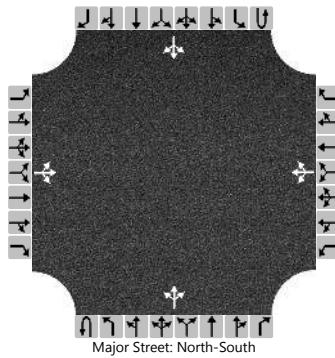
**Capacity, Delay and Level of Service**

|   |     |  |  |     |  |  |     |  |  |  |  |  |
|---|-----|--|--|-----|--|--|-----|--|--|--|--|--|
| Flow Rate, v (veh/h)                    | 214 |  |  | 72  |  |  | 52  |  |  |  |  |  |
| Capacity                                | 920 |  |  | 840 |  |  | 770 |  |  |  |  |  |
| 95% Queue Length, Q <sub>95</sub> (veh) | 0.9 |  |  | 0.3 |  |  | 0.2 |  |  |  |  |  |
| Control Delay (s/veh)                   | 8.1 |  |  | 7.7 |  |  | 8.0 |  |  |  |  |  |
| Level of Service, LOS                   | A   |  |  | A   |  |  | A   |  |  |  |  |  |
| Approach Delay (s/veh)                  | 8.1 |  |  | 7.7 |  |  | 8.0 |  |  |  |  |  |
| Approach LOS                            | A   |  |  | A   |  |  | A   |  |  |  |  |  |
| Intersection Delay, s/veh   LOS         | 8.0 |  |  |     |  |  | A   |  |  |  |  |  |

# HCS7 Two-Way Stop-Control Report

| General Information      |                               |  |  | Site Information           |                    |  |  |
|--------------------------|-------------------------------|--|--|----------------------------|--------------------|--|--|
| Analyst                  | Chris Hawkins                 |  |  | Intersection               | Village/Polaris Rd |  |  |
| Agency/Co.               | LSC                           |  |  | Jurisdiction               |                    |  |  |
| Date Performed           | 2/28/2019                     |  |  | East/West Street           | Polaris rd         |  |  |
| Analysis Year            | 2019                          |  |  | North/South Street         | Village Rd         |  |  |
| Time Analyzed            | PM                            |  |  | Peak Hour Factor           | 0.92               |  |  |
| Intersection Orientation | North-South                   |  |  | Analysis Time Period (hrs) | 0.25               |  |  |
| Project Description      | Tahoe XC - Winter Existing NP |  |  |                            |                    |  |  |

## Lanes



## Vehicle Volumes and Adjustments

| Approach                   | Eastbound |    |     |    | Westbound |   |     |   | Northbound |    |     |   | Southbound |   |     |   |
|----------------------------|-----------|----|-----|----|-----------|---|-----|---|------------|----|-----|---|------------|---|-----|---|
|                            | U         | L  | T   | R  | U         | L | T   | R | U          | L  | T   | R | U          | L | T   | R |
| Priority                   |           | 10 | 11  | 12 |           | 7 | 8   | 9 | 1U         | 1  | 2   | 3 | 4U         | 4 | 5   | 6 |
| Number of Lanes            |           | 0  | 1   | 0  |           | 0 | 1   | 0 | 0          | 0  | 1   | 0 | 0          | 0 | 1   | 0 |
| Configuration              |           |    | LTR |    |           |   | LTR |   |            |    | LTR |   |            |   | LTR |   |
| Volume (veh/h)             |           | 4  | 0   | 98 |           | 0 | 0   | 0 |            | 55 | 37  | 0 |            | 0 | 24  | 2 |
| Percent Heavy Vehicles (%) |           | 3  | 3   | 3  |           | 3 | 3   | 3 |            | 3  |     |   |            | 3 |     |   |
| Proportion Time Blocked    |           |    |     |    |           |   |     |   |            |    |     |   |            |   |     |   |
| Percent Grade (%)          | 0         |    |     |    | -5        |   |     |   |            |    |     |   |            |   |     |   |
| Right Turn Channelized     |           |    |     |    |           |   |     |   |            |    |     |   |            |   |     |   |
| Median Type   Storage      | Undivided |    |     |    |           |   |     |   |            |    |     |   |            |   |     |   |

## Critical and Follow-up Headways

|                              |  |      |      |      |  |      |      |      |  |      |  |  |  |      |  |  |
|------------------------------|--|------|------|------|--|------|------|------|--|------|--|--|--|------|--|--|
| Base Critical Headway (sec)  |  | 7.1  | 6.5  | 6.2  |  | 7.1  | 6.5  | 6.2  |  | 4.1  |  |  |  | 4.1  |  |  |
| Critical Headway (sec)       |  | 7.13 | 6.53 | 6.23 |  | 6.13 | 5.53 | 5.73 |  | 4.13 |  |  |  | 4.13 |  |  |
| Base Follow-Up Headway (sec) |  | 3.5  | 4.0  | 3.3  |  | 3.5  | 4.0  | 3.3  |  | 2.2  |  |  |  | 2.2  |  |  |
| Follow-Up Headway (sec)      |  | 3.53 | 4.03 | 3.33 |  | 3.53 | 4.03 | 3.33 |  | 2.23 |  |  |  | 2.23 |  |  |

## Delay, Queue Length, and Level of Service

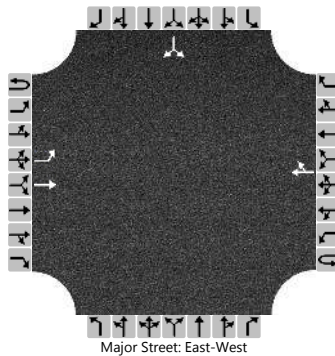
|   |     |  |      |  |  |  |   |  |     |      |  |  |     |      |  |  |
|---|-----|--|------|--|--|--|---|--|-----|------|--|--|-----|------|--|--|
| Flow Rate, v (veh/h)                    |     |  | 111  |  |  |  | 0 |  |     | 60   |  |  |     | 0    |  |  |
| Capacity, c (veh/h)                     |     |  | 1029 |  |  |  |   |  |     | 1579 |  |  |     | 1563 |  |  |
| v/c Ratio                               |     |  | 0.11 |  |  |  |   |  |     | 0.04 |  |  |     | 0.00 |  |  |
| 95% Queue Length, Q <sub>95</sub> (veh) |     |  | 0.4  |  |  |  |   |  |     | 0.1  |  |  |     | 0.0  |  |  |
| Control Delay (s/veh)                   |     |  | 8.9  |  |  |  |   |  |     | 7.4  |  |  |     | 7.3  |  |  |
| Level of Service (LOS)                  |     |  | A    |  |  |  |   |  |     | A    |  |  |     | A    |  |  |
| Approach Delay (s/veh)                  | 8.9 |  |      |  |  |  |   |  | 4.5 |      |  |  | 0.0 |      |  |  |
| Approach LOS                            | A   |  |      |  |  |  |   |  |     |      |  |  |     |      |  |  |



# HCS7 Two-Way Stop-Control Report

| General Information      |                                   |  |  | Site Information           |            |  |  |
|--------------------------|-----------------------------------|--|--|----------------------------|------------|--|--|
| Analyst                  | Chris Hawkins                     |  |  | Intersection               | SR28Fabian |  |  |
| Agency/Co.               | LSC                               |  |  | Jurisdiction               |            |  |  |
| Date Performed           | 2/28/2019                         |  |  | East/West Street           | SR 28      |  |  |
| Analysis Year            | 2019                              |  |  | North/South Street         | Fabian Way |  |  |
| Time Analyzed            | 2                                 |  |  | Peak Hour Factor           | 0.92       |  |  |
| Intersection Orientation | East-West                         |  |  | Analysis Time Period (hrs) | 0.25       |  |  |
| Project Description      | Tahoe XC Winter Weekend Future NP |  |  |                            |            |  |  |

## Lanes



## Vehicle Volumes and Adjustments

| Approach                   | Eastbound |    |     |   | Westbound |   |     |    | Northbound |   |   |   | Southbound |    |    |    |
|----------------------------|-----------|----|-----|---|-----------|---|-----|----|------------|---|---|---|------------|----|----|----|
|                            | U         | L  | T   | R | U         | L | T   | R  | U          | L | T | R | U          | L  | T  | R  |
| Movement                   | 1U        | 1  | 2   | 3 | 4U        | 4 | 5   | 6  |            | 7 | 8 | 9 |            | 10 | 11 | 12 |
| Priority                   |           |    |     |   |           |   |     |    |            |   |   |   |            |    |    |    |
| Number of Lanes            | 0         | 1  | 1   | 0 | 0         | 0 | 1   | 0  | 0          | 0 | 0 | 0 | 0          | 1  | 0  |    |
| Configuration              |           | L  | T   |   |           |   |     | TR |            |   |   |   |            |    | LR |    |
| Volume (veh/h)             |           | 57 | 783 |   |           |   | 514 | 68 |            |   |   |   |            | 61 |    | 53 |
| Percent Heavy Vehicles (%) |           | 3  |     |   |           |   |     |    |            |   |   |   |            | 3  |    | 3  |
| Proportion Time Blocked    |           |    |     |   |           |   |     |    |            |   |   |   |            |    |    |    |
| Percent Grade (%)          |           |    |     |   |           |   |     |    |            |   |   |   |            | -8 |    |    |
| Right Turn Channelized     |           |    |     |   |           |   |     |    |            |   |   |   |            |    |    |    |
| Median Type   Storage      |           |    |     |   | Left Only |   |     |    |            |   |   |   | 1          |    |    |    |

## Critical and Follow-up Headways

|                              |  |      |  |  |  |  |  |  |  |  |  |  |  |      |  |      |
|------------------------------|--|------|--|--|--|--|--|--|--|--|--|--|--|------|--|------|
| Base Critical Headway (sec)  |  | 4.1  |  |  |  |  |  |  |  |  |  |  |  | 7.1  |  | 6.2  |
| Critical Headway (sec)       |  | 4.13 |  |  |  |  |  |  |  |  |  |  |  | 4.83 |  | 5.43 |
| Base Follow-Up Headway (sec) |  | 2.2  |  |  |  |  |  |  |  |  |  |  |  | 3.5  |  | 3.3  |
| Follow-Up Headway (sec)      |  | 2.23 |  |  |  |  |  |  |  |  |  |  |  | 3.53 |  | 3.33 |

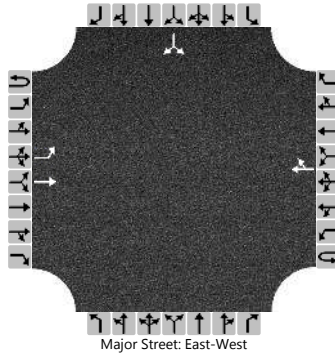
## Delay, Queue Length, and Level of Service

|   |  |      |  |  |  |  |  |  |  |  |  |  |   |      |  |      |  |
|---|--|------|--|--|--|--|--|--|--|--|--|--|---|------|--|------|--|
| Flow Rate, v (veh/h)                    |  | 62   |  |  |  |  |  |  |  |  |  |  |   |      |  | 124  |  |
| Capacity, c (veh/h)                     |  | 942  |  |  |  |  |  |  |  |  |  |  |   |      |  | 701  |  |
| v/c Ratio                               |  | 0.07 |  |  |  |  |  |  |  |  |  |  |   |      |  | 0.18 |  |
| 95% Queue Length, Q <sub>95</sub> (veh) |  | 0.2  |  |  |  |  |  |  |  |  |  |  |   |      |  | 0.6  |  |
| Control Delay (s/veh)                   |  | 9.1  |  |  |  |  |  |  |  |  |  |  |   |      |  | 11.2 |  |
| Level of Service (LOS)                  |  | A    |  |  |  |  |  |  |  |  |  |  |   |      |  | B    |  |
| Approach Delay (s/veh)                  |  | 0.6  |  |  |  |  |  |  |  |  |  |  |   | 11.2 |  |      |  |
| Approach LOS                            |  |      |  |  |  |  |  |  |  |  |  |  | B |      |  |      |  |

# HCS7 Two-Way Stop-Control Report

| General Information      |                                     |  |  | Site Information           |                |  |  |
|--------------------------|-------------------------------------|--|--|----------------------------|----------------|--|--|
| Analyst                  | Chris Hawkins                       |  |  | Intersection               | Old Mill/SR 28 |  |  |
| Agency/Co.               | LSC                                 |  |  | Jurisdiction               |                |  |  |
| Date Performed           | 2/28/2019                           |  |  | East/West Street           | SR28           |  |  |
| Analysis Year            | 2019                                |  |  | North/South Street         | Old Mill       |  |  |
| Time Analyzed            |                                     |  |  | Peak Hour Factor           | 0.92           |  |  |
| Intersection Orientation | East-West                           |  |  | Analysis Time Period (hrs) | 0.25           |  |  |
| Project Description      | Tahoe XC Winter Future NP - Weekend |  |  |                            |                |  |  |

## Lanes



## Vehicle Volumes and Adjustments

| Approach                   | Eastbound |    |     |   | Westbound |   |     |    | Northbound |   |   |   | Southbound |    |    |     |
|----------------------------|-----------|----|-----|---|-----------|---|-----|----|------------|---|---|---|------------|----|----|-----|
|                            | U         | L  | T   | R | U         | L | T   | R  | U          | L | T | R | U          | L  | T  | R   |
| Movement                   | 1U        | 1  | 2   | 3 | 4U        | 4 | 5   | 6  |            | 7 | 8 | 9 |            | 10 | 11 | 12  |
| Priority                   |           |    |     |   |           |   |     |    |            |   |   |   |            |    |    |     |
| Number of Lanes            | 0         | 1  | 1   | 0 | 0         | 0 | 1   | 0  |            | 0 | 0 | 0 |            | 0  | 1  | 0   |
| Configuration              |           | L  | T   |   |           |   |     | TR |            |   |   |   |            |    | LR |     |
| Volume (veh/h)             |           | 24 | 819 |   |           |   | 577 | 2  |            |   |   |   |            | 4  |    | 27  |
| Percent Heavy Vehicles (%) |           | 3  |     |   |           |   |     |    |            |   |   |   |            | 3  |    | 3   |
| Proportion Time Blocked    |           |    |     |   |           |   |     |    |            |   |   |   |            |    |    |     |
| Percent Grade (%)          |           |    |     |   |           |   |     |    |            |   |   |   |            |    |    | -10 |
| Right Turn Channelized     |           |    |     |   |           |   |     |    |            |   |   |   |            |    |    |     |
| Median Type   Storage      | Undivided |    |     |   |           |   |     |    |            |   |   |   |            |    |    |     |

## Critical and Follow-up Headways

|                              |  |      |  |  |  |  |  |  |  |  |  |  |  |      |  |      |
|------------------------------|--|------|--|--|--|--|--|--|--|--|--|--|--|------|--|------|
| Base Critical Headway (sec)  |  | 4.1  |  |  |  |  |  |  |  |  |  |  |  | 7.1  |  | 6.2  |
| Critical Headway (sec)       |  | 4.13 |  |  |  |  |  |  |  |  |  |  |  | 4.43 |  | 5.23 |
| Base Follow-Up Headway (sec) |  | 2.2  |  |  |  |  |  |  |  |  |  |  |  | 3.5  |  | 3.3  |
| Follow-Up Headway (sec)      |  | 2.23 |  |  |  |  |  |  |  |  |  |  |  | 3.53 |  | 3.33 |

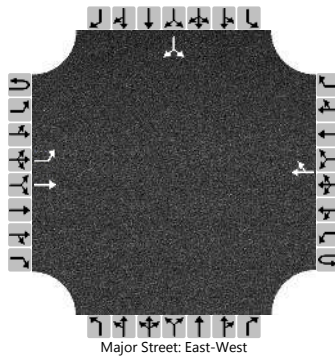
## Delay, Queue Length, and Level of Service

|   |  |      |  |  |  |  |  |  |  |  |  |  |   |      |  |      |  |
|---|--|------|--|--|--|--|--|--|--|--|--|--|---|------|--|------|--|
| Flow Rate, v (veh/h)                    |  | 26   |  |  |  |  |  |  |  |  |  |  |   |      |  | 34   |  |
| Capacity, c (veh/h)                     |  | 948  |  |  |  |  |  |  |  |  |  |  |   |      |  | 650  |  |
| v/c Ratio                               |  | 0.03 |  |  |  |  |  |  |  |  |  |  |   |      |  | 0.05 |  |
| 95% Queue Length, Q <sub>95</sub> (veh) |  | 0.1  |  |  |  |  |  |  |  |  |  |  |   |      |  | 0.2  |  |
| Control Delay (s/veh)                   |  | 8.9  |  |  |  |  |  |  |  |  |  |  |   |      |  | 10.8 |  |
| Level of Service (LOS)                  |  | A    |  |  |  |  |  |  |  |  |  |  |   |      |  | B    |  |
| Approach Delay (s/veh)                  |  | 0.3  |  |  |  |  |  |  |  |  |  |  |   | 10.8 |  |      |  |
| Approach LOS                            |  |      |  |  |  |  |  |  |  |  |  |  | B |      |  |      |  |

# HCS7 Two-Way Stop-Control Report

| General Information      |                           |  |  | Site Information           |            |  |  |
|--------------------------|---------------------------|--|--|----------------------------|------------|--|--|
| Analyst                  | Chris Hawkins             |  |  | Intersection               | SR28Fabian |  |  |
| Agency/Co.               | LSC                       |  |  | Jurisdiction               |            |  |  |
| Date Performed           | 2/28/2019                 |  |  | East/West Street           | SR 28      |  |  |
| Analysis Year            | 2019                      |  |  | North/South Street         | Fabian Way |  |  |
| Time Analyzed            | 2                         |  |  | Peak Hour Factor           | 0.92       |  |  |
| Intersection Orientation | East-West                 |  |  | Analysis Time Period (hrs) | 0.25       |  |  |
| Project Description      | Tahoe XC Summer Future PP |  |  |                            |            |  |  |

## Lanes



## Vehicle Volumes and Adjustments

| Approach                   | Eastbound |    |     |   | Westbound |   |     |    | Northbound |   |   |   | Southbound |    |    |    |
|----------------------------|-----------|----|-----|---|-----------|---|-----|----|------------|---|---|---|------------|----|----|----|
|                            | U         | L  | T   | R | U         | L | T   | R  | U          | L | T | R | U          | L  | T  | R  |
| Movement                   | 1U        | 1  | 2   | 3 | 4U        | 4 | 5   | 6  |            | 7 | 8 | 9 |            | 10 | 11 | 12 |
| Priority                   |           |    |     |   |           |   |     |    |            |   |   |   |            |    |    |    |
| Number of Lanes            | 0         | 1  | 1   | 0 | 0         | 0 | 1   | 0  |            | 0 | 0 | 0 |            | 0  | 1  | 0  |
| Configuration              |           | L  | T   |   |           |   |     | TR |            |   |   |   |            |    | LR |    |
| Volume (veh/h)             |           | 42 | 777 |   |           |   | 530 | 70 |            |   |   |   |            | 58 |    | 34 |
| Percent Heavy Vehicles (%) |           | 3  |     |   |           |   |     |    |            |   |   |   |            | 3  |    | 3  |
| Proportion Time Blocked    |           |    |     |   |           |   |     |    |            |   |   |   |            |    |    |    |
| Percent Grade (%)          |           |    |     |   |           |   |     |    |            |   |   |   |            | -8 |    |    |
| Right Turn Channelized     |           |    |     |   |           |   |     |    |            |   |   |   |            |    |    |    |
| Median Type   Storage      |           |    |     |   | Left Only |   |     |    |            |   |   |   | 1          |    |    |    |

## Critical and Follow-up Headways

|                              |  |      |  |  |  |  |  |  |  |  |  |  |  |      |  |      |
|------------------------------|--|------|--|--|--|--|--|--|--|--|--|--|--|------|--|------|
| Base Critical Headway (sec)  |  | 4.1  |  |  |  |  |  |  |  |  |  |  |  | 7.1  |  | 6.2  |
| Critical Headway (sec)       |  | 4.13 |  |  |  |  |  |  |  |  |  |  |  | 4.83 |  | 5.43 |
| Base Follow-Up Headway (sec) |  | 2.2  |  |  |  |  |  |  |  |  |  |  |  | 3.5  |  | 3.3  |
| Follow-Up Headway (sec)      |  | 2.23 |  |  |  |  |  |  |  |  |  |  |  | 3.53 |  | 3.33 |

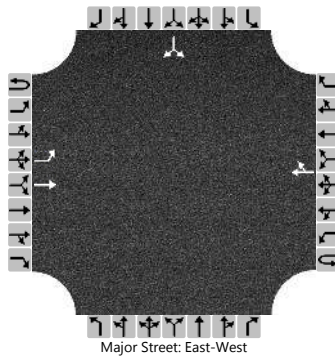
## Delay, Queue Length, and Level of Service

|   |  |      |  |  |  |  |  |  |  |  |  |  |   |      |  |      |  |
|---|--|------|--|--|--|--|--|--|--|--|--|--|---|------|--|------|--|
| Flow Rate, v (veh/h)                    |  | 46   |  |  |  |  |  |  |  |  |  |  |   |      |  | 100  |  |
| Capacity, c (veh/h)                     |  | 926  |  |  |  |  |  |  |  |  |  |  |   |      |  | 612  |  |
| v/c Ratio                               |  | 0.05 |  |  |  |  |  |  |  |  |  |  |   |      |  | 0.16 |  |
| 95% Queue Length, Q <sub>95</sub> (veh) |  | 0.2  |  |  |  |  |  |  |  |  |  |  |   |      |  | 0.6  |  |
| Control Delay (s/veh)                   |  | 9.1  |  |  |  |  |  |  |  |  |  |  |   |      |  | 12.0 |  |
| Level of Service (LOS)                  |  | A    |  |  |  |  |  |  |  |  |  |  |   |      |  | B    |  |
| Approach Delay (s/veh)                  |  | 0.5  |  |  |  |  |  |  |  |  |  |  |   | 12.0 |  |      |  |
| Approach LOS                            |  |      |  |  |  |  |  |  |  |  |  |  | B |      |  |      |  |

# HCS7 Two-Way Stop-Control Report

| General Information      |                           |  |  | Site Information           |                |  |  |
|--------------------------|---------------------------|--|--|----------------------------|----------------|--|--|
| Analyst                  | Chris Hawkins             |  |  | Intersection               | Old Mill/SR 28 |  |  |
| Agency/Co.               | LSC                       |  |  | Jurisdiction               |                |  |  |
| Date Performed           | 2/28/2019                 |  |  | East/West Street           | SR28           |  |  |
| Analysis Year            | 2019                      |  |  | North/South Street         | Old Mill       |  |  |
| Time Analyzed            |                           |  |  | Peak Hour Factor           | 0.92           |  |  |
| Intersection Orientation | East-West                 |  |  | Analysis Time Period (hrs) | 0.25           |  |  |
| Project Description      | Tahoe XC Summer Future PP |  |  |                            |                |  |  |

## Lanes



## Vehicle Volumes and Adjustments

| Approach                   | Eastbound |    |     |   | Westbound |   |     |    | Northbound |   |   |   | Southbound |    |    |     |
|----------------------------|-----------|----|-----|---|-----------|---|-----|----|------------|---|---|---|------------|----|----|-----|
|                            | U         | L  | T   | R | U         | L | T   | R  | U          | L | T | R | U          | L  | T  | R   |
| Movement                   | 1U        | 1  | 2   | 3 | 4U        | 4 | 5   | 6  |            | 7 | 8 | 9 |            | 10 | 11 | 12  |
| Priority                   |           |    |     |   |           |   |     |    |            |   |   |   |            |    |    |     |
| Number of Lanes            | 0         | 1  | 1   | 0 | 0         | 0 | 1   | 0  |            | 0 | 0 | 0 |            | 0  | 1  | 0   |
| Configuration              |           | L  | T   |   |           |   |     | TR |            |   |   |   |            |    | LR |     |
| Volume (veh/h)             |           | 80 | 781 |   |           |   | 516 | 11 |            |   |   |   |            | 3  |    | 56  |
| Percent Heavy Vehicles (%) |           | 3  |     |   |           |   |     |    |            |   |   |   |            | 3  |    | 3   |
| Proportion Time Blocked    |           |    |     |   |           |   |     |    |            |   |   |   |            |    |    |     |
| Percent Grade (%)          |           |    |     |   |           |   |     |    |            |   |   |   |            |    |    | -10 |
| Right Turn Channelized     |           |    |     |   |           |   |     |    |            |   |   |   |            |    |    |     |
| Median Type   Storage      | Undivided |    |     |   |           |   |     |    |            |   |   |   |            |    |    |     |

## Critical and Follow-up Headways

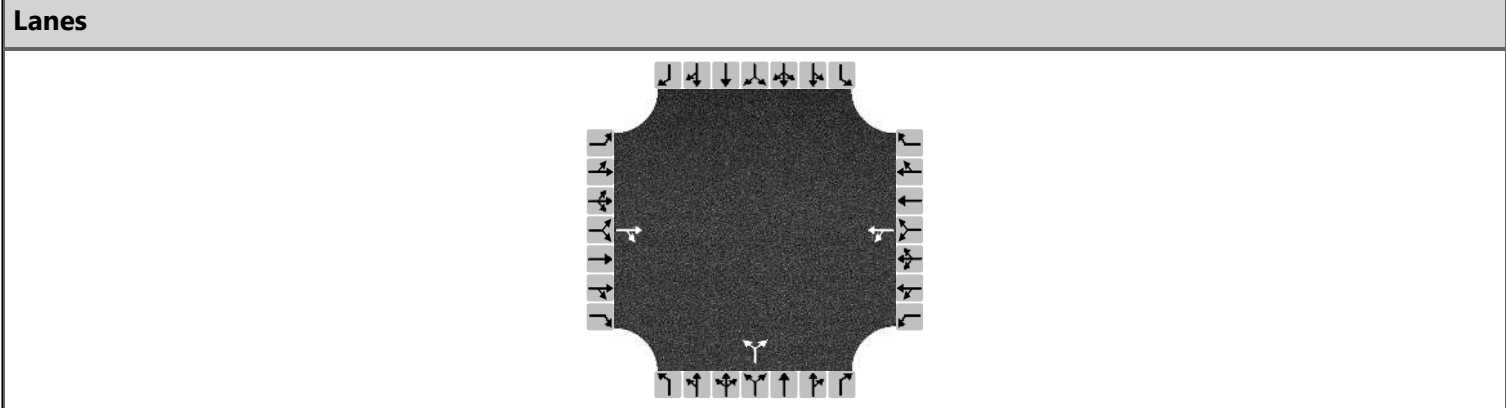
|                              |  |      |  |  |  |  |  |  |  |  |  |  |  |      |  |      |
|------------------------------|--|------|--|--|--|--|--|--|--|--|--|--|--|------|--|------|
| Base Critical Headway (sec)  |  | 4.1  |  |  |  |  |  |  |  |  |  |  |  | 7.1  |  | 6.2  |
| Critical Headway (sec)       |  | 4.13 |  |  |  |  |  |  |  |  |  |  |  | 4.43 |  | 5.23 |
| Base Follow-Up Headway (sec) |  | 2.2  |  |  |  |  |  |  |  |  |  |  |  | 3.5  |  | 3.3  |
| Follow-Up Headway (sec)      |  | 2.23 |  |  |  |  |  |  |  |  |  |  |  | 3.53 |  | 3.33 |

## Delay, Queue Length, and Level of Service

|   |  |      |  |  |  |  |  |  |  |  |  |  |  |      |  |      |  |
|---|--|------|--|--|--|--|--|--|--|--|--|--|--|------|--|------|--|
| Flow Rate, v (veh/h)                    |  | 87   |  |  |  |  |  |  |  |  |  |  |  |      |  | 64   |  |
| Capacity, c (veh/h)                     |  | 995  |  |  |  |  |  |  |  |  |  |  |  |      |  | 635  |  |
| v/c Ratio                               |  | 0.09 |  |  |  |  |  |  |  |  |  |  |  |      |  | 0.10 |  |
| 95% Queue Length, Q <sub>95</sub> (veh) |  | 0.3  |  |  |  |  |  |  |  |  |  |  |  |      |  | 0.3  |  |
| Control Delay (s/veh)                   |  | 9.0  |  |  |  |  |  |  |  |  |  |  |  |      |  | 11.3 |  |
| Level of Service (LOS)                  |  | A    |  |  |  |  |  |  |  |  |  |  |  |      |  | B    |  |
| Approach Delay (s/veh)                  |  | 0.8  |  |  |  |  |  |  |  |  |  |  |  | 11.3 |  |      |  |
| Approach LOS                            |  |      |  |  |  |  |  |  |  |  |  |  |  | B    |  |      |  |

# HCS7 All-Way Stop Control Report

| General Information        |                           | Site Information   |                     |
|----------------------------|---------------------------|--------------------|---------------------|
| Analyst                    | Chris Hawkins             | Intersection       | Polaris/Old Mill Rd |
| Agency/Co.                 | LSC                       | Jurisdiction       |                     |
| Date Performed             | 3/22/2019                 | East/West Street   | Polaris             |
| Analysis Year              | 2019                      | North/South Street | Old Mill            |
| Analysis Time Period (hrs) | 0.25                      | Peak Hour Factor   | 0.92                |
| Time Analyzed              |                           |                    |                     |
| Project Description        | Tahoe XC Summer Future PP |                    |                     |



**Vehicle Volume and Adjustments**

| Approach               | Eastbound |    |    | Westbound |    |    | Northbound |    |    | Southbound |    |    |
|------------------------|-----------|----|----|-----------|----|----|------------|----|----|------------|----|----|
|                        | L         | T  | R  | L         | T  | R  | L          | T  | R  | L          | T  | R  |
| Movement               |           |    |    |           |    |    |            |    |    |            |    |    |
| Volume                 |           | 33 | 47 | 3         | 46 |    | 54         |    | 6  |            |    |    |
| % Thrus in Shared Lane |           |    |    |           |    |    |            |    |    |            |    |    |
| Lane                   | L1        | L2 | L3 | L1        | L2 | L3 | L1         | L2 | L3 | L1         | L2 | L3 |
| Configuration          | TR        |    |    | LT        |    |    | LR         |    |    |            |    |    |
| Flow Rate, v (veh/h)   | 87        |    |    | 53        |    |    | 65         |    |    |            |    |    |
| Percent Heavy Vehicles | 3         |    |    | 3         |    |    | 3          |    |    |            |    |    |

**Departure Headway and Service Time**

|                                   |       |  |  |       |  |  |       |  |  |  |  |  |
|-----------------------------------|-------|--|--|-------|--|--|-------|--|--|--|--|--|
| Initial Departure Headway, hd (s) | 3.20  |  |  | 3.20  |  |  | 3.20  |  |  |  |  |  |
| Initial Degree of Utilization, x  | 0.077 |  |  | 0.047 |  |  | 0.058 |  |  |  |  |  |
| Final Departure Headway, hd (s)   | 3.80  |  |  | 4.19  |  |  | 4.36  |  |  |  |  |  |
| Final Degree of Utilization, x    | 0.092 |  |  | 0.062 |  |  | 0.079 |  |  |  |  |  |
| Move-Up Time, m (s)               | 2.0   |  |  | 2.0   |  |  | 2.0   |  |  |  |  |  |
| Service Time, ts (s)              | 1.80  |  |  | 2.19  |  |  | 2.36  |  |  |  |  |  |

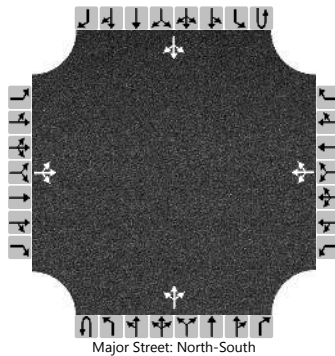
**Capacity, Delay and Level of Service**

|   |     |  |  |     |  |  |     |  |  |  |  |  |
|---|-----|--|--|-----|--|--|-----|--|--|--|--|--|
| Flow Rate, v (veh/h)                    | 87  |  |  | 53  |  |  | 65  |  |  |  |  |  |
| Capacity                                | 946 |  |  | 858 |  |  | 826 |  |  |  |  |  |
| 95% Queue Length, Q <sub>95</sub> (veh) | 0.3 |  |  | 0.2 |  |  | 0.3 |  |  |  |  |  |
| Control Delay (s/veh)                   | 7.2 |  |  | 7.5 |  |  | 7.7 |  |  |  |  |  |
| Level of Service, LOS                   | A   |  |  | A   |  |  | A   |  |  |  |  |  |
| Approach Delay (s/veh)                  | 7.2 |  |  | 7.5 |  |  | 7.7 |  |  |  |  |  |
| Approach LOS                            | A   |  |  | A   |  |  | A   |  |  |  |  |  |
| Intersection Delay, s/veh   LOS         | 7.4 |  |  |     |  |  | A   |  |  |  |  |  |

# HCS7 Two-Way Stop-Control Report

| General Information      |                           |  |  | Site Information           |                    |  |  |
|--------------------------|---------------------------|--|--|----------------------------|--------------------|--|--|
| Analyst                  | Chris Hawkins             |  |  | Intersection               | Village/Polaris Rd |  |  |
| Agency/Co.               | LSC                       |  |  | Jurisdiction               |                    |  |  |
| Date Performed           | 2/28/2019                 |  |  | East/West Street           | Polaris rd         |  |  |
| Analysis Year            | 2019                      |  |  | North/South Street         | Village Rd         |  |  |
| Time Analyzed            |                           |  |  | Peak Hour Factor           | 0.92               |  |  |
| Intersection Orientation | North-South               |  |  | Analysis Time Period (hrs) | 0.25               |  |  |
| Project Description      | Tahoe XC Summer Future PP |  |  |                            |                    |  |  |

## Lanes



## Vehicle Volumes and Adjustments

| Approach                   | Eastbound |           |     |    | Westbound |    |     |   | Northbound |    |     |   | Southbound |   |     |   |
|----------------------------|-----------|-----------|-----|----|-----------|----|-----|---|------------|----|-----|---|------------|---|-----|---|
|                            | U         | L         | T   | R  | U         | L  | T   | R | U          | L  | T   | R | U          | L | T   | R |
| Priority                   |           | 10        | 11  | 12 |           | 7  | 8   | 9 | 1U         | 1  | 2   | 3 | 4U         | 4 | 5   | 6 |
| Number of Lanes            |           | 0         | 1   | 0  |           | 0  | 1   | 0 | 0          | 0  | 1   | 0 | 0          | 0 | 1   | 0 |
| Configuration              |           |           | LTR |    |           |    | LTR |   |            |    | LTR |   |            |   | LTR |   |
| Volume (veh/h)             |           | 1         | 0   | 32 |           | 4  | 0   | 0 |            | 50 | 0   | 3 |            | 0 | 11  | 2 |
| Percent Heavy Vehicles (%) |           | 3         | 3   | 3  |           | 3  | 3   | 3 |            | 3  |     |   |            | 3 |     |   |
| Proportion Time Blocked    |           |           |     |    |           |    |     |   |            |    |     |   |            |   |     |   |
| Percent Grade (%)          |           | 0         |     |    |           | -5 |     |   |            |    |     |   |            |   |     |   |
| Right Turn Channelized     |           |           |     |    |           |    |     |   |            |    |     |   |            |   |     |   |
| Median Type   Storage      |           | Undivided |     |    |           |    |     |   |            |    |     |   |            |   |     |   |

## Critical and Follow-up Headways

|                              |  |      |      |      |  |      |      |      |  |      |  |  |  |      |  |  |
|------------------------------|--|------|------|------|--|------|------|------|--|------|--|--|--|------|--|--|
| Base Critical Headway (sec)  |  | 7.1  | 6.5  | 6.2  |  | 7.1  | 6.5  | 6.2  |  | 4.1  |  |  |  | 4.1  |  |  |
| Critical Headway (sec)       |  | 7.13 | 6.53 | 6.23 |  | 6.13 | 5.53 | 5.73 |  | 4.13 |  |  |  | 4.13 |  |  |
| Base Follow-Up Headway (sec) |  | 3.5  | 4.0  | 3.3  |  | 3.5  | 4.0  | 3.3  |  | 2.2  |  |  |  | 2.2  |  |  |
| Follow-Up Headway (sec)      |  | 3.53 | 4.03 | 3.33 |  | 3.53 | 4.03 | 3.33 |  | 2.23 |  |  |  | 2.23 |  |  |

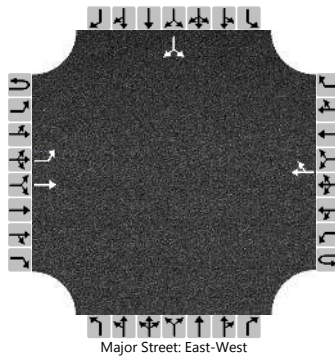
## Delay, Queue Length, and Level of Service

|   |  |     |      |  |  |     |      |  |  |      |  |  |  |      |  |  |  |
|---|--|-----|------|--|--|-----|------|--|--|------|--|--|--|------|--|--|--|
| Flow Rate, v (veh/h)                    |  |     | 36   |  |  |     | 4    |  |  | 54   |  |  |  | 0    |  |  |  |
| Capacity, c (veh/h)                     |  |     | 1055 |  |  |     | 810  |  |  | 1597 |  |  |  | 1612 |  |  |  |
| v/c Ratio                               |  |     | 0.03 |  |  |     | 0.01 |  |  | 0.03 |  |  |  | 0.00 |  |  |  |
| 95% Queue Length, Q <sub>95</sub> (veh) |  |     | 0.1  |  |  |     | 0.0  |  |  | 0.1  |  |  |  | 0.0  |  |  |  |
| Control Delay (s/veh)                   |  |     | 8.5  |  |  |     | 9.5  |  |  | 7.3  |  |  |  | 7.2  |  |  |  |
| Level of Service (LOS)                  |  |     | A    |  |  |     | A    |  |  | A    |  |  |  | A    |  |  |  |
| Approach Delay (s/veh)                  |  | 8.5 |      |  |  | 9.5 |      |  |  | 6.9  |  |  |  | 0.0  |  |  |  |
| Approach LOS                            |  | A   |      |  |  | A   |      |  |  |      |  |  |  |      |  |  |  |

# HCS7 Two-Way Stop-Control Report

| General Information      |                           |  |  | Site Information           |            |  |  |
|--------------------------|---------------------------|--|--|----------------------------|------------|--|--|
| Analyst                  | Chris Hawkins             |  |  | Intersection               | SR28Fabian |  |  |
| Agency/Co.               | LSC                       |  |  | Jurisdiction               |            |  |  |
| Date Performed           | 2/28/2019                 |  |  | East/West Street           | SR 28      |  |  |
| Analysis Year            | 2019                      |  |  | North/South Street         | Fabian Way |  |  |
| Time Analyzed            | 2                         |  |  | Peak Hour Factor           | 0.92       |  |  |
| Intersection Orientation | East-West                 |  |  | Analysis Time Period (hrs) | 0.25       |  |  |
| Project Description      | Tahoe XC Winter Future NP |  |  |                            |            |  |  |

## Lanes



## Vehicle Volumes and Adjustments

| Approach                   | Eastbound |    |     |   | Westbound |   |     |     | Northbound |   |   |   | Southbound |    |    |    |
|----------------------------|-----------|----|-----|---|-----------|---|-----|-----|------------|---|---|---|------------|----|----|----|
|                            | U         | L  | T   | R | U         | L | T   | R   | U          | L | T | R | U          | L  | T  | R  |
| Movement                   | 1U        | 1  | 2   | 3 | 4U        | 4 | 5   | 6   |            | 7 | 8 | 9 |            | 10 | 11 | 12 |
| Priority                   |           |    |     |   |           |   |     |     |            |   |   |   |            |    |    |    |
| Number of Lanes            | 0         | 1  | 1   | 0 | 0         | 0 | 1   | 0   |            | 0 | 0 | 0 |            | 0  | 1  | 0  |
| Configuration              |           | L  | T   |   |           |   |     | TR  |            |   |   |   |            |    | LR |    |
| Volume (veh/h)             |           | 64 | 454 |   |           |   | 318 | 101 |            |   |   |   |            | 98 |    | 56 |
| Percent Heavy Vehicles (%) |           | 3  |     |   |           |   |     |     |            |   |   |   |            | 3  |    | 3  |
| Proportion Time Blocked    |           |    |     |   |           |   |     |     |            |   |   |   |            |    |    |    |
| Percent Grade (%)          |           |    |     |   |           |   |     |     |            |   |   |   |            |    |    | -8 |
| Right Turn Channelized     |           |    |     |   |           |   |     |     |            |   |   |   |            |    |    |    |
| Median Type   Storage      |           |    |     |   | Left Only |   |     |     |            |   |   |   | 1          |    |    |    |

## Critical and Follow-up Headways

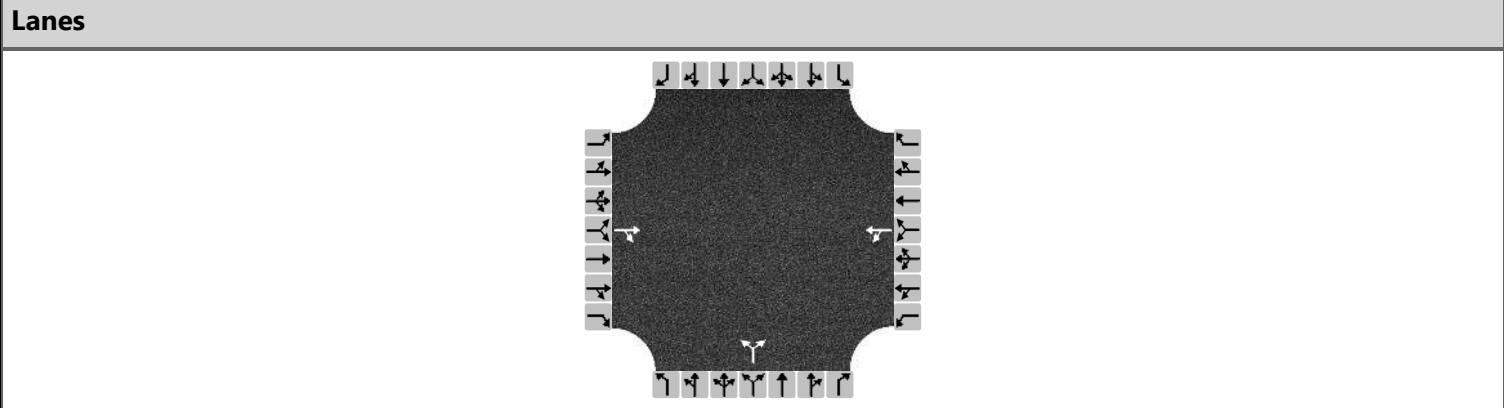
|                              |  |      |  |  |  |  |  |  |  |  |  |  |  |      |  |      |
|------------------------------|--|------|--|--|--|--|--|--|--|--|--|--|--|------|--|------|
| Base Critical Headway (sec)  |  | 4.1  |  |  |  |  |  |  |  |  |  |  |  | 6.1  |  | 4.9  |
| Critical Headway (sec)       |  | 4.13 |  |  |  |  |  |  |  |  |  |  |  | 3.83 |  | 4.13 |
| Base Follow-Up Headway (sec) |  | 2.2  |  |  |  |  |  |  |  |  |  |  |  | 3.5  |  | 3.3  |
| Follow-Up Headway (sec)      |  | 2.23 |  |  |  |  |  |  |  |  |  |  |  | 3.53 |  | 3.33 |

## Delay, Queue Length, and Level of Service

|   |  |      |  |  |  |  |  |  |  |  |  |  |   |      |  |      |  |
|---|--|------|--|--|--|--|--|--|--|--|--|--|---|------|--|------|--|
| Flow Rate, v (veh/h)                    |  | 70   |  |  |  |  |  |  |  |  |  |  |   |      |  | 167  |  |
| Capacity, c (veh/h)                     |  | 1096 |  |  |  |  |  |  |  |  |  |  |   |      |  | 867  |  |
| v/c Ratio                               |  | 0.06 |  |  |  |  |  |  |  |  |  |  |   |      |  | 0.19 |  |
| 95% Queue Length, Q <sub>95</sub> (veh) |  | 0.2  |  |  |  |  |  |  |  |  |  |  |   |      |  | 0.7  |  |
| Control Delay (s/veh)                   |  | 8.5  |  |  |  |  |  |  |  |  |  |  |   |      |  | 10.1 |  |
| Level of Service (LOS)                  |  | A    |  |  |  |  |  |  |  |  |  |  |   |      |  | B    |  |
| Approach Delay (s/veh)                  |  | 1.1  |  |  |  |  |  |  |  |  |  |  |   | 10.1 |  |      |  |
| Approach LOS                            |  |      |  |  |  |  |  |  |  |  |  |  | B |      |  |      |  |

# HCS7 All-Way Stop Control Report

| General Information        |                              | Site Information   |                     |
|----------------------------|------------------------------|--------------------|---------------------|
| Analyst                    | Chris Hawkins                | Intersection       | Polaris/Old Mill Rd |
| Agency/Co.                 | LSC                          | Jurisdiction       |                     |
| Date Performed             | 3/22/2019                    | East/West Street   | Polaris             |
| Analysis Year              | 2019                         | North/South Street | Old Mill            |
| Analysis Time Period (hrs) | 0.25                         | Peak Hour Factor   | 0.92                |
| Time Analyzed              |                              |                    |                     |
| Project Description        | Tahoe XC Winter PM Future PP |                    |                     |



**Vehicle Volume and Adjustments**

| Approach               | Eastbound |     |    | Westbound |     |    | Northbound |    |    | Southbound |    |    |
|------------------------|-----------|-----|----|-----------|-----|----|------------|----|----|------------|----|----|
|                        | L         | T   | R  | L         | T   | R  | L          | T  | R  | L          | T  | R  |
| Movement               |           |     |    |           |     |    |            |    |    |            |    |    |
| Volume                 |           | 132 | 82 | 3         | 109 |    | 73         |    | 4  |            |    |    |
| % Thrus in Shared Lane |           |     |    |           |     |    |            |    |    |            |    |    |
| Lane                   | L1        | L2  | L3 | L1        | L2  | L3 | L1         | L2 | L3 | L1         | L2 | L3 |
| Configuration          | TR        |     |    | LT        |     |    | LR         |    |    |            |    |    |
| Flow Rate, v (veh/h)   | 233       |     |    | 122       |     |    | 84         |    |    |            |    |    |
| Percent Heavy Vehicles | 3         |     |    | 3         |     |    | 3          |    |    |            |    |    |

**Departure Headway and Service Time**

|                                   |       |  |  |       |  |  |       |  |  |  |  |  |
|-----------------------------------|-------|--|--|-------|--|--|-------|--|--|--|--|--|
| Initial Departure Headway, hd (s) | 3.20  |  |  | 3.20  |  |  | 3.20  |  |  |  |  |  |
| Initial Degree of Utilization, x  | 0.207 |  |  | 0.108 |  |  | 0.074 |  |  |  |  |  |
| Final Departure Headway, hd (s)   | 4.07  |  |  | 4.41  |  |  | 4.88  |  |  |  |  |  |
| Final Degree of Utilization, x    | 0.263 |  |  | 0.149 |  |  | 0.113 |  |  |  |  |  |
| Move-Up Time, m (s)               | 2.0   |  |  | 2.0   |  |  | 2.0   |  |  |  |  |  |
| Service Time, ts (s)              | 2.07  |  |  | 2.41  |  |  | 2.88  |  |  |  |  |  |

**Capacity, Delay and Level of Service**

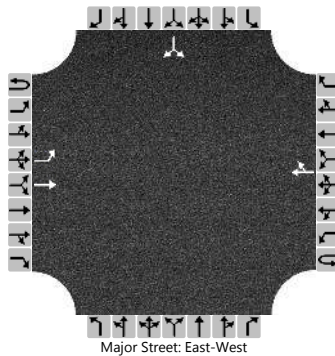
|   |     |  |  |     |  |  |     |  |  |  |  |  |
|---|-----|--|--|-----|--|--|-----|--|--|--|--|--|
| Flow Rate, v (veh/h)                    | 233 |  |  | 122 |  |  | 84  |  |  |  |  |  |
| Capacity                                | 884 |  |  | 817 |  |  | 738 |  |  |  |  |  |
| 95% Queue Length, Q <sub>95</sub> (veh) | 1.1 |  |  | 0.5 |  |  | 0.4 |  |  |  |  |  |
| Control Delay (s/veh)                   | 8.5 |  |  | 8.2 |  |  | 8.5 |  |  |  |  |  |
| Level of Service, LOS                   | A   |  |  | A   |  |  | A   |  |  |  |  |  |
| Approach Delay (s/veh)                  | 8.5 |  |  | 8.2 |  |  | 8.5 |  |  |  |  |  |
| Approach LOS                            | A   |  |  | A   |  |  | A   |  |  |  |  |  |
| Intersection Delay, s/veh   LOS         | 8.4 |  |  |     |  |  | A   |  |  |  |  |  |



# HCS7 Two-Way Stop-Control Report

| General Information      |                           |  |  | Site Information           |                |  |  |
|--------------------------|---------------------------|--|--|----------------------------|----------------|--|--|
| Analyst                  | Chris Hawkins             |  |  | Intersection               | Old Mill/SR 28 |  |  |
| Agency/Co.               | LSC                       |  |  | Jurisdiction               |                |  |  |
| Date Performed           | 2/28/2019                 |  |  | East/West Street           | SR28           |  |  |
| Analysis Year            | 2019                      |  |  | North/South Street         | Old Mill       |  |  |
| Time Analyzed            |                           |  |  | Peak Hour Factor           | 0.92           |  |  |
| Intersection Orientation | East-West                 |  |  | Analysis Time Period (hrs) | 0.25           |  |  |
| Project Description      | Tahoe XC Winter Future PP |  |  |                            |                |  |  |

## Lanes



## Vehicle Volumes and Adjustments

| Approach                   | Eastbound |    |     |   | Westbound |   |     |    | Northbound |   |   |   | Southbound |     |    |    |
|----------------------------|-----------|----|-----|---|-----------|---|-----|----|------------|---|---|---|------------|-----|----|----|
|                            | U         | L  | T   | R | U         | L | T   | R  | U          | L | T | R | U          | L   | T  | R  |
| Movement                   | 1U        | 1  | 2   | 3 | 4U        | 4 | 5   | 6  |            | 7 | 8 | 9 |            | 10  | 11 | 12 |
| Priority                   |           |    |     |   |           |   |     |    |            |   |   |   |            |     |    |    |
| Number of Lanes            | 0         | 1  | 1   | 0 | 0         | 0 | 1   | 0  |            | 0 | 0 | 0 |            | 0   | 1  | 0  |
| Configuration              |           | L  | T   |   |           |   |     | TR |            |   |   |   |            |     | LR |    |
| Volume (veh/h)             |           | 70 | 410 |   |           |   | 389 | 7  |            |   |   |   |            | 2   |    | 49 |
| Percent Heavy Vehicles (%) |           | 3  |     |   |           |   |     |    |            |   |   |   |            | 3   |    | 3  |
| Proportion Time Blocked    |           |    |     |   |           |   |     |    |            |   |   |   |            |     |    |    |
| Percent Grade (%)          |           |    |     |   |           |   |     |    |            |   |   |   |            | -10 |    |    |
| Right Turn Channelized     |           |    |     |   |           |   |     |    |            |   |   |   |            |     |    |    |
| Median Type   Storage      | Undivided |    |     |   |           |   |     |    |            |   |   |   |            |     |    |    |

## Critical and Follow-up Headways

|                              |  |      |  |  |  |  |  |  |  |  |  |  |  |      |  |      |
|------------------------------|--|------|--|--|--|--|--|--|--|--|--|--|--|------|--|------|
| Base Critical Headway (sec)  |  | 4.1  |  |  |  |  |  |  |  |  |  |  |  | 7.1  |  | 6.2  |
| Critical Headway (sec)       |  | 4.13 |  |  |  |  |  |  |  |  |  |  |  | 4.43 |  | 5.23 |
| Base Follow-Up Headway (sec) |  | 2.2  |  |  |  |  |  |  |  |  |  |  |  | 3.5  |  | 3.3  |
| Follow-Up Headway (sec)      |  | 2.23 |  |  |  |  |  |  |  |  |  |  |  | 3.53 |  | 3.33 |

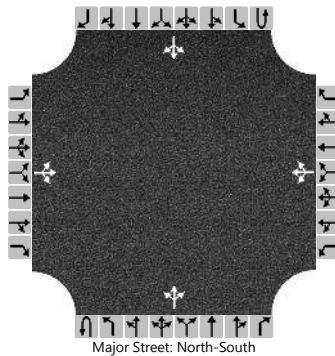
## Delay, Queue Length, and Level of Service

|   |  |      |  |  |  |  |  |  |  |  |  |  |  |      |  |      |
|---|--|------|--|--|--|--|--|--|--|--|--|--|--|------|--|------|
| Flow Rate, v (veh/h)                    |  | 76   |  |  |  |  |  |  |  |  |  |  |  |      |  | 55   |
| Capacity, c (veh/h)                     |  | 1124 |  |  |  |  |  |  |  |  |  |  |  |      |  | 725  |
| v/c Ratio                               |  | 0.07 |  |  |  |  |  |  |  |  |  |  |  |      |  | 0.08 |
| 95% Queue Length, Q <sub>95</sub> (veh) |  | 0.2  |  |  |  |  |  |  |  |  |  |  |  |      |  | 0.2  |
| Control Delay (s/veh)                   |  | 8.4  |  |  |  |  |  |  |  |  |  |  |  |      |  | 10.4 |
| Level of Service (LOS)                  |  | A    |  |  |  |  |  |  |  |  |  |  |  |      |  | B    |
| Approach Delay (s/veh)                  |  | 1.2  |  |  |  |  |  |  |  |  |  |  |  | 10.4 |  |      |
| Approach LOS                            |  |      |  |  |  |  |  |  |  |  |  |  |  | B    |  |      |

# HCS7 Two-Way Stop-Control Report

| General Information      |                               |  |  | Site Information           |                    |  |  |
|--------------------------|-------------------------------|--|--|----------------------------|--------------------|--|--|
| Analyst                  | Chris Hawkins                 |  |  | Intersection               | Village/Polaris Rd |  |  |
| Agency/Co.               | LSC                           |  |  | Jurisdiction               |                    |  |  |
| Date Performed           | 2/28/2019                     |  |  | East/West Street           | Polaris rd         |  |  |
| Analysis Year            | 2019                          |  |  | North/South Street         | Village Rd         |  |  |
| Time Analyzed            | PM                            |  |  | Peak Hour Factor           | 0.92               |  |  |
| Intersection Orientation | North-South                   |  |  | Analysis Time Period (hrs) | 0.25               |  |  |
| Project Description      | Tahoe XC - Winter Existing PP |  |  |                            |                    |  |  |

## Lanes



## Vehicle Volumes and Adjustments

| Approach                   | Eastbound |    |     |     | Westbound |   |     |   | Northbound |    |     |   | Southbound |   |     |   |
|----------------------------|-----------|----|-----|-----|-----------|---|-----|---|------------|----|-----|---|------------|---|-----|---|
|                            | U         | L  | T   | R   | U         | L | T   | R | U          | L  | T   | R | U          | L | T   | R |
| Movement                   |           |    |     |     |           |   |     |   |            |    |     |   |            |   |     |   |
| Priority                   |           | 10 | 11  | 12  |           | 7 | 8   | 9 | 1U         | 1  | 2   | 3 | 4U         | 4 | 5   | 6 |
| Number of Lanes            |           | 0  | 1   | 0   |           | 0 | 1   | 0 |            | 0  | 1   | 0 |            | 0 | 1   | 0 |
| Configuration              |           |    | LTR |     |           |   | LTR |   |            |    | LTR |   |            |   | LTR |   |
| Volume (veh/h)             |           | 4  | 0   | 111 |           | 0 | 0   | 0 |            | 99 | 3   | 0 |            | 0 | 21  | 2 |
| Percent Heavy Vehicles (%) |           | 3  | 3   | 3   |           | 3 | 3   | 3 |            | 3  |     |   |            | 3 |     |   |
| Proportion Time Blocked    |           |    |     |     |           |   |     |   |            |    |     |   |            |   |     |   |
| Percent Grade (%)          | 0         |    |     |     | -5        |   |     |   |            |    |     |   |            |   |     |   |
| Right Turn Channelized     |           |    |     |     |           |   |     |   |            |    |     |   |            |   |     |   |
| Median Type   Storage      | Undivided |    |     |     |           |   |     |   |            |    |     |   |            |   |     |   |

## Critical and Follow-up Headways

|                              |  |      |      |      |  |      |      |      |  |      |  |  |  |      |  |  |
|------------------------------|--|------|------|------|--|------|------|------|--|------|--|--|--|------|--|--|
| Base Critical Headway (sec)  |  | 7.1  | 6.5  | 6.2  |  | 7.1  | 6.5  | 6.2  |  | 4.1  |  |  |  | 4.1  |  |  |
| Critical Headway (sec)       |  | 7.13 | 6.53 | 6.23 |  | 6.13 | 5.53 | 5.73 |  | 4.13 |  |  |  | 4.13 |  |  |
| Base Follow-Up Headway (sec) |  | 3.5  | 4.0  | 3.3  |  | 3.5  | 4.0  | 3.3  |  | 2.2  |  |  |  | 2.2  |  |  |
| Follow-Up Headway (sec)      |  | 3.53 | 4.03 | 3.33 |  | 3.53 | 4.03 | 3.33 |  | 2.23 |  |  |  | 2.23 |  |  |

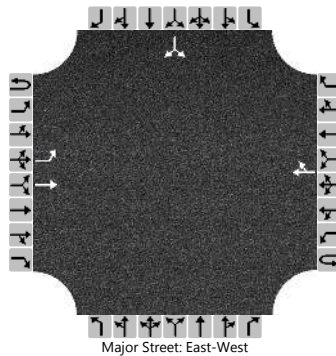
## Delay, Queue Length, and Level of Service

|   |     |  |      |  |  |  |   |  |     |  |      |  |     |  |      |  |
|---|-----|--|------|--|--|--|---|--|-----|--|------|--|-----|--|------|--|
| Flow Rate, v (veh/h)                    |     |  | 125  |  |  |  | 0 |  |     |  | 108  |  |     |  | 0    |  |
| Capacity, c (veh/h)                     |     |  | 1030 |  |  |  |   |  |     |  | 1583 |  |     |  | 1612 |  |
| v/c Ratio                               |     |  | 0.12 |  |  |  |   |  |     |  | 0.07 |  |     |  | 0.00 |  |
| 95% Queue Length, Q <sub>95</sub> (veh) |     |  | 0.4  |  |  |  |   |  |     |  | 0.2  |  |     |  | 0.0  |  |
| Control Delay (s/veh)                   |     |  | 9.0  |  |  |  |   |  |     |  | 7.4  |  |     |  | 7.2  |  |
| Level of Service (LOS)                  |     |  | A    |  |  |  |   |  |     |  | A    |  |     |  | A    |  |
| Approach Delay (s/veh)                  | 9.0 |  |      |  |  |  |   |  | 7.2 |  |      |  | 0.0 |  |      |  |
| Approach LOS                            | A   |  |      |  |  |  |   |  |     |  |      |  |     |  |      |  |

# HCS7 Two-Way Stop-Control Report

| General Information      |                                   |  |  | Site Information           |            |  |  |
|--------------------------|-----------------------------------|--|--|----------------------------|------------|--|--|
| Analyst                  | Chris Hawkins                     |  |  | Intersection               | SR28Fabian |  |  |
| Agency/Co.               | LSC                               |  |  | Jurisdiction               |            |  |  |
| Date Performed           | 2/28/2019                         |  |  | East/West Street           | SR 28      |  |  |
| Analysis Year            | 2019                              |  |  | North/South Street         | Fabian Way |  |  |
| Time Analyzed            | 2                                 |  |  | Peak Hour Factor           | 0.92       |  |  |
| Intersection Orientation | East-West                         |  |  | Analysis Time Period (hrs) | 0.25       |  |  |
| Project Description      | Tahoe XC Winter Weekend Future PP |  |  |                            |            |  |  |

## Lanes



## Vehicle Volumes and Adjustments

| Approach                   | Eastbound |    |     |   | Westbound |   |     |    | Northbound |   |   |   | Southbound |    |    |    |
|----------------------------|-----------|----|-----|---|-----------|---|-----|----|------------|---|---|---|------------|----|----|----|
|                            | U         | L  | T   | R | U         | L | T   | R  | U          | L | T | R | U          | L  | T  | R  |
| Movement                   | 1U        | 1  | 2   | 3 | 4U        | 4 | 5   | 6  |            | 7 | 8 | 9 |            | 10 | 11 | 12 |
| Priority                   |           |    |     |   |           |   |     |    |            |   |   |   |            |    |    |    |
| Number of Lanes            | 0         | 1  | 1   | 0 | 0         | 0 | 1   | 0  |            | 0 | 0 | 0 |            | 0  | 1  | 0  |
| Configuration              |           | L  | T   |   |           |   |     | TR |            |   |   |   |            |    | LR |    |
| Volume (veh/h)             |           | 54 | 783 |   |           |   | 526 | 74 |            |   |   |   |            | 55 |    | 53 |
| Percent Heavy Vehicles (%) |           | 3  |     |   |           |   |     |    |            |   |   |   |            | 3  |    | 3  |
| Proportion Time Blocked    |           |    |     |   |           |   |     |    |            |   |   |   |            |    |    |    |
| Percent Grade (%)          |           |    |     |   |           |   |     |    |            |   |   |   |            |    |    | -8 |
| Right Turn Channelized     |           |    |     |   |           |   |     |    |            |   |   |   |            |    |    |    |
| Median Type   Storage      |           |    |     |   | Left Only |   |     |    |            |   |   |   | 1          |    |    |    |

## Critical and Follow-up Headways

|                              |  |      |  |  |  |  |  |  |  |  |  |  |  |      |  |      |
|------------------------------|--|------|--|--|--|--|--|--|--|--|--|--|--|------|--|------|
| Base Critical Headway (sec)  |  | 4.1  |  |  |  |  |  |  |  |  |  |  |  | 7.1  |  | 6.2  |
| Critical Headway (sec)       |  | 4.13 |  |  |  |  |  |  |  |  |  |  |  | 4.83 |  | 5.43 |
| Base Follow-Up Headway (sec) |  | 2.2  |  |  |  |  |  |  |  |  |  |  |  | 3.5  |  | 3.3  |
| Follow-Up Headway (sec)      |  | 2.23 |  |  |  |  |  |  |  |  |  |  |  | 3.53 |  | 3.33 |

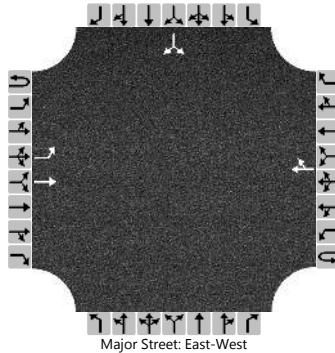
## Delay, Queue Length, and Level of Service

|   |  |      |  |  |  |  |  |  |  |  |  |  |  |      |  |      |  |
|---|--|------|--|--|--|--|--|--|--|--|--|--|--|------|--|------|--|
| Flow Rate, v (veh/h)                    |  | 59   |  |  |  |  |  |  |  |  |  |  |  |      |  | 117  |  |
| Capacity, c (veh/h)                     |  | 926  |  |  |  |  |  |  |  |  |  |  |  |      |  | 736  |  |
| v/c Ratio                               |  | 0.06 |  |  |  |  |  |  |  |  |  |  |  |      |  | 0.16 |  |
| 95% Queue Length, Q <sub>95</sub> (veh) |  | 0.2  |  |  |  |  |  |  |  |  |  |  |  |      |  | 0.6  |  |
| Control Delay (s/veh)                   |  | 9.1  |  |  |  |  |  |  |  |  |  |  |  |      |  | 10.8 |  |
| Level of Service (LOS)                  |  | A    |  |  |  |  |  |  |  |  |  |  |  |      |  | B    |  |
| Approach Delay (s/veh)                  |  | 0.6  |  |  |  |  |  |  |  |  |  |  |  | 10.8 |  |      |  |
| Approach LOS                            |  |      |  |  |  |  |  |  |  |  |  |  |  | B    |  |      |  |

# HCS7 Two-Way Stop-Control Report

| General Information      |                                     | Site Information           |                |
|--------------------------|-------------------------------------|----------------------------|----------------|
| Analyst                  | Chris Hawkins                       | Intersection               | Old Mill/SR 28 |
| Agency/Co.               | LSC                                 | Jurisdiction               |                |
| Date Performed           | 2/28/2019                           | East/West Street           | SR28           |
| Analysis Year            | 2019                                | North/South Street         | Old Mill       |
| Time Analyzed            |                                     | Peak Hour Factor           | 0.92           |
| Intersection Orientation | East-West                           | Analysis Time Period (hrs) | 0.25           |
| Project Description      | Tahoe XC Winter Future PP - Weekend |                            |                |

## Lanes



## Vehicle Volumes and Adjustments

| Approach                   | Eastbound |    |     |   | Westbound |   |     |    | Northbound |   |   |   | Southbound |    |    |     |
|----------------------------|-----------|----|-----|---|-----------|---|-----|----|------------|---|---|---|------------|----|----|-----|
|                            | U         | L  | T   | R | U         | L | T   | R  | U          | L | T | R | U          | L  | T  | R   |
| Movement                   | 1U        | 1  | 2   | 3 | 4U        | 4 | 5   | 6  |            | 7 | 8 | 9 |            | 10 | 11 | 12  |
| Priority                   |           |    |     |   |           |   |     |    |            |   |   |   |            |    |    |     |
| Number of Lanes            | 0         | 1  | 1   | 0 | 0         | 0 | 1   | 0  |            | 0 | 0 | 0 |            | 0  | 1  | 0   |
| Configuration              |           | L  | T   |   |           |   |     | TR |            |   |   |   |            |    | LR |     |
| Volume (veh/h)             |           | 49 | 816 |   |           |   | 577 | 14 |            |   |   |   |            | 4  |    | 49  |
| Percent Heavy Vehicles (%) |           | 3  |     |   |           |   |     |    |            |   |   |   |            | 3  |    | 3   |
| Proportion Time Blocked    |           |    |     |   |           |   |     |    |            |   |   |   |            |    |    |     |
| Percent Grade (%)          |           |    |     |   |           |   |     |    |            |   |   |   |            |    |    | -10 |
| Right Turn Channelized     |           |    |     |   |           |   |     |    |            |   |   |   |            |    |    |     |
| Median Type   Storage      | Undivided |    |     |   |           |   |     |    |            |   |   |   |            |    |    |     |

## Critical and Follow-up Headways

|                              |  |      |  |  |  |  |  |  |  |  |  |  |  |      |  |      |
|------------------------------|--|------|--|--|--|--|--|--|--|--|--|--|--|------|--|------|
| Base Critical Headway (sec)  |  | 4.1  |  |  |  |  |  |  |  |  |  |  |  | 7.1  |  | 6.2  |
| Critical Headway (sec)       |  | 4.13 |  |  |  |  |  |  |  |  |  |  |  | 4.43 |  | 5.23 |
| Base Follow-Up Headway (sec) |  | 2.2  |  |  |  |  |  |  |  |  |  |  |  | 3.5  |  | 3.3  |
| Follow-Up Headway (sec)      |  | 2.23 |  |  |  |  |  |  |  |  |  |  |  | 3.53 |  | 3.33 |

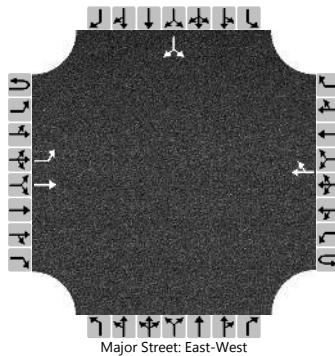
## Delay, Queue Length, and Level of Service

|   |  |      |  |  |  |  |  |  |  |  |  |  |  |      |  |      |  |
|---|--|------|--|--|--|--|--|--|--|--|--|--|--|------|--|------|--|
| Flow Rate, v (veh/h)                    |  | 53   |  |  |  |  |  |  |  |  |  |  |  |      |  | 58   |  |
| Capacity, c (veh/h)                     |  | 937  |  |  |  |  |  |  |  |  |  |  |  |      |  | 608  |  |
| v/c Ratio                               |  | 0.06 |  |  |  |  |  |  |  |  |  |  |  |      |  | 0.09 |  |
| 95% Queue Length, Q <sub>95</sub> (veh) |  | 0.2  |  |  |  |  |  |  |  |  |  |  |  |      |  | 0.3  |  |
| Control Delay (s/veh)                   |  | 9.1  |  |  |  |  |  |  |  |  |  |  |  |      |  | 11.5 |  |
| Level of Service (LOS)                  |  | A    |  |  |  |  |  |  |  |  |  |  |  |      |  | B    |  |
| Approach Delay (s/veh)                  |  | 0.5  |  |  |  |  |  |  |  |  |  |  |  | 11.5 |  |      |  |
| Approach LOS                            |  |      |  |  |  |  |  |  |  |  |  |  |  | B    |  |      |  |

# HCS7 Two-Way Stop-Control Report

| General Information      |                                   |  |  | Site Information           |            |  |  |
|--------------------------|-----------------------------------|--|--|----------------------------|------------|--|--|
| Analyst                  | Chris Hawkins                     |  |  | Intersection               | SR28Fabian |  |  |
| Agency/Co.               | LSC                               |  |  | Jurisdiction               |            |  |  |
| Date Performed           | 3/5/2019                          |  |  | East/West Street           | SR 28      |  |  |
| Analysis Year            | 2019                              |  |  | North/South Street         | Fabian Way |  |  |
| Time Analyzed            | 2                                 |  |  | Peak Hour Factor           | 0.92       |  |  |
| Intersection Orientation | East-West                         |  |  | Analysis Time Period (hrs) | 0.25       |  |  |
| Project Description      | Tahoe XC Summer Future PP Ex Site |  |  |                            |            |  |  |

## Lanes



## Vehicle Volumes and Adjustments

| Approach                   | Eastbound |    |     |   | Westbound |   |     |    | Northbound |   |   |   | Southbound |    |    |    |
|----------------------------|-----------|----|-----|---|-----------|---|-----|----|------------|---|---|---|------------|----|----|----|
|                            | U         | L  | T   | R | U         | L | T   | R  | U          | L | T | R | U          | L  | T  | R  |
| Movement                   | 1U        | 1  | 2   | 3 | 4U        | 4 | 5   | 6  |            | 7 | 8 | 9 |            | 10 | 11 | 12 |
| Priority                   |           |    |     |   |           |   |     |    |            |   |   |   |            |    |    |    |
| Number of Lanes            | 0         | 1  | 1   | 0 | 0         | 0 | 1   | 0  |            | 0 | 0 | 0 |            | 0  | 1  | 0  |
| Configuration              |           | L  | T   |   |           |   |     | TR |            |   |   |   |            |    | LR |    |
| Volume (veh/h)             |           | 94 | 777 |   |           |   | 530 | 77 |            |   |   |   |            | 62 |    | 68 |
| Percent Heavy Vehicles (%) |           | 3  |     |   |           |   |     |    |            |   |   |   |            | 3  |    | 3  |
| Proportion Time Blocked    |           |    |     |   |           |   |     |    |            |   |   |   |            |    |    |    |
| Percent Grade (%)          |           |    |     |   |           |   |     |    |            |   |   |   |            | -8 |    |    |
| Right Turn Channelized     |           |    |     |   |           |   |     |    |            |   |   |   |            |    |    |    |
| Median Type   Storage      |           |    |     |   | Left Only |   |     |    |            |   |   |   | 1          |    |    |    |

## Critical and Follow-up Headways

|                              |  |      |  |  |  |  |  |  |  |  |  |  |  |      |  |      |
|------------------------------|--|------|--|--|--|--|--|--|--|--|--|--|--|------|--|------|
| Base Critical Headway (sec)  |  | 4.1  |  |  |  |  |  |  |  |  |  |  |  | 7.1  |  | 6.2  |
| Critical Headway (sec)       |  | 4.13 |  |  |  |  |  |  |  |  |  |  |  | 4.83 |  | 5.43 |
| Base Follow-Up Headway (sec) |  | 2.2  |  |  |  |  |  |  |  |  |  |  |  | 3.5  |  | 3.3  |
| Follow-Up Headway (sec)      |  | 2.23 |  |  |  |  |  |  |  |  |  |  |  | 3.53 |  | 3.33 |

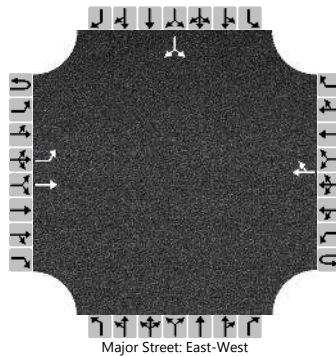
## Delay, Queue Length, and Level of Service

|   |  |      |  |  |  |  |  |  |  |  |  |  |   |      |  |      |  |
|---|--|------|--|--|--|--|--|--|--|--|--|--|---|------|--|------|--|
| Flow Rate, v (veh/h)                    |  | 102  |  |  |  |  |  |  |  |  |  |  |   |      |  | 141  |  |
| Capacity, c (veh/h)                     |  | 920  |  |  |  |  |  |  |  |  |  |  |   |      |  | 720  |  |
| v/c Ratio                               |  | 0.11 |  |  |  |  |  |  |  |  |  |  |   |      |  | 0.20 |  |
| 95% Queue Length, Q <sub>95</sub> (veh) |  | 0.4  |  |  |  |  |  |  |  |  |  |  |   |      |  | 0.7  |  |
| Control Delay (s/veh)                   |  | 9.4  |  |  |  |  |  |  |  |  |  |  |   |      |  | 11.2 |  |
| Level of Service (LOS)                  |  | A    |  |  |  |  |  |  |  |  |  |  |   |      |  | B    |  |
| Approach Delay (s/veh)                  |  | 1.0  |  |  |  |  |  |  |  |  |  |  |   | 11.2 |  |      |  |
| Approach LOS                            |  |      |  |  |  |  |  |  |  |  |  |  | B |      |  |      |  |

# HCS7 Two-Way Stop-Control Report

| General Information      |                                   |  |  | Site Information           |                |  |  |
|--------------------------|-----------------------------------|--|--|----------------------------|----------------|--|--|
| Analyst                  | Chris Hawkins                     |  |  | Intersection               | Old Mill/SR 28 |  |  |
| Agency/Co.               | LSC                               |  |  | Jurisdiction               |                |  |  |
| Date Performed           | 3/5/2019                          |  |  | East/West Street           | SR28           |  |  |
| Analysis Year            | 2019                              |  |  | North/South Street         | Old Mill       |  |  |
| Time Analyzed            |                                   |  |  | Peak Hour Factor           | 0.92           |  |  |
| Intersection Orientation | East-West                         |  |  | Analysis Time Period (hrs) | 0.25           |  |  |
| Project Description      | Tahoe XC Summer Future PP Ex Site |  |  |                            |                |  |  |

## Lanes



## Vehicle Volumes and Adjustments

| Approach                   | Eastbound |           |     |   | Westbound |   |     |    | Northbound |   |   |   | Southbound |    |    |     |  |
|----------------------------|-----------|-----------|-----|---|-----------|---|-----|----|------------|---|---|---|------------|----|----|-----|--|
|                            | U         | L         | T   | R | U         | L | T   | R  | U          | L | T | R | U          | L  | T  | R   |  |
| Movement                   | 1U        | 1         | 2   | 3 | 4U        | 4 | 5   | 6  |            | 7 | 8 | 9 |            | 10 | 11 | 12  |  |
| Priority                   |           |           |     |   |           |   |     |    |            |   |   |   |            |    |    |     |  |
| Number of Lanes            | 0         | 1         | 1   | 0 | 0         | 0 | 1   | 0  |            | 0 | 0 | 0 |            | 0  | 1  | 0   |  |
| Configuration              |           | L         | T   |   |           |   |     | TR |            |   |   |   |            |    | LR |     |  |
| Volume (veh/h)             |           | 38        | 833 |   |           |   | 550 | 11 |            |   |   |   |            | 3  |    | 26  |  |
| Percent Heavy Vehicles (%) |           | 3         |     |   |           |   |     |    |            |   |   |   |            | 3  |    | 3   |  |
| Proportion Time Blocked    |           |           |     |   |           |   |     |    |            |   |   |   |            |    |    |     |  |
| Percent Grade (%)          |           |           |     |   |           |   |     |    |            |   |   |   |            |    |    | -10 |  |
| Right Turn Channelized     |           |           |     |   |           |   |     |    |            |   |   |   |            |    |    |     |  |
| Median Type   Storage      |           | Undivided |     |   |           |   |     |    |            |   |   |   |            |    |    |     |  |

## Critical and Follow-up Headways

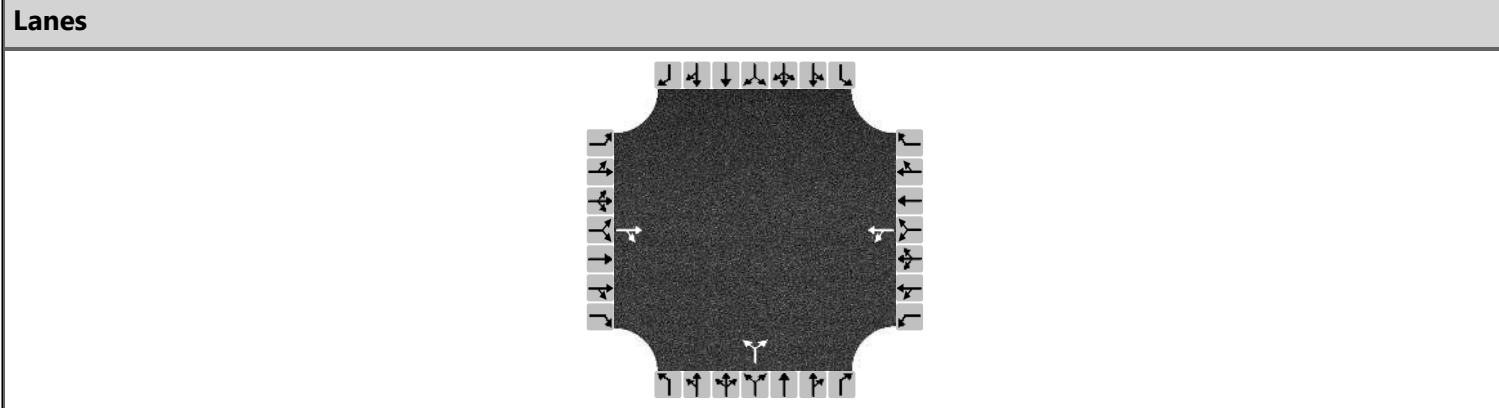
|                              |  |      |  |  |  |  |  |  |  |  |  |  |  |      |  |      |
|------------------------------|--|------|--|--|--|--|--|--|--|--|--|--|--|------|--|------|
| Base Critical Headway (sec)  |  | 4.1  |  |  |  |  |  |  |  |  |  |  |  | 7.1  |  | 6.2  |
| Critical Headway (sec)       |  | 4.13 |  |  |  |  |  |  |  |  |  |  |  | 4.43 |  | 5.23 |
| Base Follow-Up Headway (sec) |  | 2.2  |  |  |  |  |  |  |  |  |  |  |  | 3.5  |  | 3.3  |
| Follow-Up Headway (sec)      |  | 2.23 |  |  |  |  |  |  |  |  |  |  |  | 3.53 |  | 3.33 |

## Delay, Queue Length, and Level of Service

|   |  |      |  |  |  |  |  |  |  |  |  |  |  |      |  |      |
|---|--|------|--|--|--|--|--|--|--|--|--|--|--|------|--|------|
| Flow Rate, v (veh/h)                    |  | 41   |  |  |  |  |  |  |  |  |  |  |  |      |  | 32   |
| Capacity, c (veh/h)                     |  | 964  |  |  |  |  |  |  |  |  |  |  |  |      |  | 647  |
| v/c Ratio                               |  | 0.04 |  |  |  |  |  |  |  |  |  |  |  |      |  | 0.05 |
| 95% Queue Length, Q <sub>95</sub> (veh) |  | 0.1  |  |  |  |  |  |  |  |  |  |  |  |      |  | 0.2  |
| Control Delay (s/veh)                   |  | 8.9  |  |  |  |  |  |  |  |  |  |  |  |      |  | 10.8 |
| Level of Service (LOS)                  |  | A    |  |  |  |  |  |  |  |  |  |  |  |      |  | B    |
| Approach Delay (s/veh)                  |  | 0.4  |  |  |  |  |  |  |  |  |  |  |  | 10.8 |  |      |
| Approach LOS                            |  |      |  |  |  |  |  |  |  |  |  |  |  | B    |  |      |

# HCS7 All-Way Stop Control Report

| General Information        |                                   | Site Information   |                     |
|----------------------------|-----------------------------------|--------------------|---------------------|
| Analyst                    | Chris Hawkins                     | Intersection       | Polaris/Old Mill Rd |
| Agency/Co.                 | LSC                               | Jurisdiction       |                     |
| Date Performed             | 3/22/2019                         | East/West Street   | Polaris             |
| Analysis Year              | 2019                              | North/South Street | Old Mill            |
| Analysis Time Period (hrs) | 0.25                              | Peak Hour Factor   | 0.92                |
| Time Analyzed              |                                   |                    |                     |
| Project Description        | Tahoe XC Summer Future PP Ex Site |                    |                     |



**Vehicle Volume and Adjustments**

| Approach               | Eastbound |    |    | Westbound |    |    | Northbound |    |    | Southbound |    |    |
|------------------------|-----------|----|----|-----------|----|----|------------|----|----|------------|----|----|
|                        | L         | T  | R  | L         | T  | R  | L          | T  | R  | L          | T  | R  |
| Movement               |           |    |    |           |    |    |            |    |    |            |    |    |
| Volume                 |           | 9  | 17 | 3         | 9  |    | 12         |    | 6  |            |    |    |
| % Thrus in Shared Lane |           |    |    |           |    |    |            |    |    |            |    |    |
| Lane                   | L1        | L2 | L3 | L1        | L2 | L3 | L1         | L2 | L3 | L1         | L2 | L3 |
| Configuration          | TR        |    |    | LT        |    |    | LR         |    |    |            |    |    |
| Flow Rate, v (veh/h)   | 28        |    |    | 13        |    |    | 20         |    |    |            |    |    |
| Percent Heavy Vehicles | 3         |    |    | 3         |    |    | 3          |    |    |            |    |    |

**Departure Headway and Service Time**

|                                   |       |  |  |       |  |  |       |  |  |  |  |  |
|-----------------------------------|-------|--|--|-------|--|--|-------|--|--|--|--|--|
| Initial Departure Headway, hd (s) | 3.20  |  |  | 3.20  |  |  | 3.20  |  |  |  |  |  |
| Initial Degree of Utilization, x  | 0.025 |  |  | 0.012 |  |  | 0.017 |  |  |  |  |  |
| Final Departure Headway, hd (s)   | 3.61  |  |  | 4.07  |  |  | 3.97  |  |  |  |  |  |
| Final Degree of Utilization, x    | 0.028 |  |  | 0.015 |  |  | 0.022 |  |  |  |  |  |
| Move-Up Time, m (s)               | 2.0   |  |  | 2.0   |  |  | 2.0   |  |  |  |  |  |
| Service Time, ts (s)              | 1.61  |  |  | 2.07  |  |  | 1.97  |  |  |  |  |  |

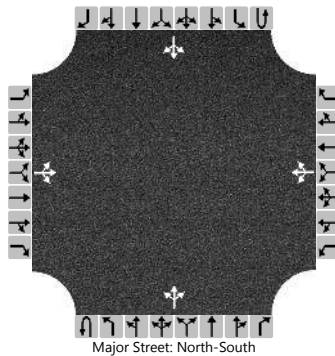
**Capacity, Delay and Level of Service**

|   |     |  |  |     |  |  |     |  |  |  |  |  |
|---|-----|--|--|-----|--|--|-----|--|--|--|--|--|
| Flow Rate, v (veh/h)                    | 28  |  |  | 13  |  |  | 20  |  |  |  |  |  |
| Capacity                                | 996 |  |  | 885 |  |  | 908 |  |  |  |  |  |
| 95% Queue Length, Q <sub>95</sub> (veh) | 0.1 |  |  | 0.0 |  |  | 0.1 |  |  |  |  |  |
| Control Delay (s/veh)                   | 6.7 |  |  | 7.1 |  |  | 7.1 |  |  |  |  |  |
| Level of Service, LOS                   | A   |  |  | A   |  |  | A   |  |  |  |  |  |
| Approach Delay (s/veh)                  | 6.7 |  |  | 7.1 |  |  | 7.1 |  |  |  |  |  |
| Approach LOS                            | A   |  |  | A   |  |  | A   |  |  |  |  |  |
| Intersection Delay, s/veh   LOS         | 6.9 |  |  |     |  |  | A   |  |  |  |  |  |

# HCS7 Two-Way Stop-Control Report

| General Information      |                                   |  |  | Site Information           |                    |  |  |
|--------------------------|-----------------------------------|--|--|----------------------------|--------------------|--|--|
| Analyst                  | Chris Hawkins                     |  |  | Intersection               | Village/Polaris Rd |  |  |
| Agency/Co.               | LSC                               |  |  | Jurisdiction               |                    |  |  |
| Date Performed           | 3/5/2019                          |  |  | East/West Street           | Polaris rd         |  |  |
| Analysis Year            | 2019                              |  |  | North/South Street         | Village Rd         |  |  |
| Time Analyzed            |                                   |  |  | Peak Hour Factor           | 0.92               |  |  |
| Intersection Orientation | North-South                       |  |  | Analysis Time Period (hrs) | 0.25               |  |  |
| Project Description      | Tahoe XC Summer Future PP Ex Site |  |  |                            |                    |  |  |

## Lanes



## Vehicle Volumes and Adjustments

| Approach                   | Eastbound |    |     |    | Westbound |   |     |   | Northbound |    |     |   | Southbound |   |     |   |
|----------------------------|-----------|----|-----|----|-----------|---|-----|---|------------|----|-----|---|------------|---|-----|---|
|                            | U         | L  | T   | R  | U         | L | T   | R | U          | L  | T   | R | U          | L | T   | R |
| Priority                   |           | 10 | 11  | 12 |           | 7 | 8   | 9 | 1U         | 1  | 2   | 3 | 4U         | 4 | 5   | 6 |
| Number of Lanes            |           | 0  | 1   | 0  |           | 0 | 1   | 0 | 0          | 0  | 1   | 0 | 0          | 0 | 1   | 0 |
| Configuration              |           |    | LTR |    |           |   | LTR |   |            |    | LTR |   |            |   | LTR |   |
| Volume (veh/h)             |           | 1  | 0   | 8  |           | 4 | 0   | 0 |            | 13 | 96  | 3 |            | 0 | 73  | 2 |
| Percent Heavy Vehicles (%) |           | 3  | 3   | 3  |           | 3 | 3   | 3 |            | 3  |     |   |            | 3 |     |   |
| Proportion Time Blocked    |           |    |     |    |           |   |     |   |            |    |     |   |            |   |     |   |
| Percent Grade (%)          | 0         |    |     |    | -5        |   |     |   |            |    |     |   |            |   |     |   |
| Right Turn Channelized     |           |    |     |    |           |   |     |   |            |    |     |   |            |   |     |   |
| Median Type   Storage      | Undivided |    |     |    |           |   |     |   |            |    |     |   |            |   |     |   |

## Critical and Follow-up Headways

|                              |  |      |      |      |  |      |      |      |  |      |  |  |  |      |  |  |
|------------------------------|--|------|------|------|--|------|------|------|--|------|--|--|--|------|--|--|
| Base Critical Headway (sec)  |  | 7.1  | 6.5  | 6.2  |  | 7.1  | 6.5  | 6.2  |  | 4.1  |  |  |  | 4.1  |  |  |
| Critical Headway (sec)       |  | 7.13 | 6.53 | 6.23 |  | 6.13 | 5.53 | 5.73 |  | 4.13 |  |  |  | 4.13 |  |  |
| Base Follow-Up Headway (sec) |  | 3.5  | 4.0  | 3.3  |  | 3.5  | 4.0  | 3.3  |  | 2.2  |  |  |  | 2.2  |  |  |
| Follow-Up Headway (sec)      |  | 3.53 | 4.03 | 3.33 |  | 3.53 | 4.03 | 3.33 |  | 2.23 |  |  |  | 2.23 |  |  |

## Delay, Queue Length, and Level of Service

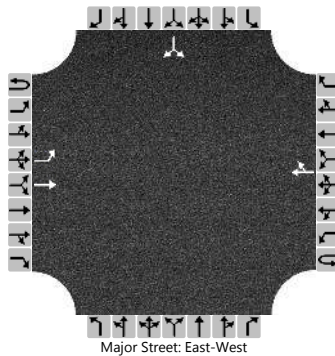
|   |     |  |      |  |     |  |      |  |     |  |  |  |     |      |  |  |
|---|-----|--|------|--|-----|--|------|--|-----|--|--|--|-----|------|--|--|
| Flow Rate, v (veh/h)                    |     |  | 10   |  |     |  | 4    |  |     |  |  |  |     | 0    |  |  |
| Capacity, c (veh/h)                     |     |  | 942  |  |     |  | 768  |  |     |  |  |  |     | 1477 |  |  |
| v/c Ratio                               |     |  | 0.01 |  |     |  | 0.01 |  |     |  |  |  |     | 0.00 |  |  |
| 95% Queue Length, Q <sub>95</sub> (veh) |     |  | 0.0  |  |     |  | 0.0  |  |     |  |  |  |     | 0.0  |  |  |
| Control Delay (s/veh)                   |     |  | 8.9  |  |     |  | 9.7  |  |     |  |  |  |     | 7.4  |  |  |
| Level of Service (LOS)                  |     |  | A    |  |     |  | A    |  |     |  |  |  |     | A    |  |  |
| Approach Delay (s/veh)                  | 8.9 |  |      |  | 9.7 |  |      |  | 0.9 |  |  |  | 0.0 |      |  |  |
| Approach LOS                            | A   |  |      |  | A   |  |      |  |     |  |  |  |     |      |  |  |



# HCS7 Two-Way Stop-Control Report

| General Information      |                                   |  |  | Site Information           |            |  |  |
|--------------------------|-----------------------------------|--|--|----------------------------|------------|--|--|
| Analyst                  | Chris Hawkins                     |  |  | Intersection               | SR28Fabian |  |  |
| Agency/Co.               | LSC                               |  |  | Jurisdiction               |            |  |  |
| Date Performed           | 3/5/2019                          |  |  | East/West Street           | SR 28      |  |  |
| Analysis Year            | 2019                              |  |  | North/South Street         | Fabian Way |  |  |
| Time Analyzed            | 2                                 |  |  | Peak Hour Factor           | 0.92       |  |  |
| Intersection Orientation | East-West                         |  |  | Analysis Time Period (hrs) | 0.25       |  |  |
| Project Description      | Tahoe XC Winter Future PP Ex Site |  |  |                            |            |  |  |

## Lanes



## Vehicle Volumes and Adjustments

| Approach                   | Eastbound |     |     |   | Westbound |   |     |     | Northbound |   |   |   | Southbound |     |    |    |
|----------------------------|-----------|-----|-----|---|-----------|---|-----|-----|------------|---|---|---|------------|-----|----|----|
|                            | U         | L   | T   | R | U         | L | T   | R   | U          | L | T | R | U          | L   | T  | R  |
| Movement                   | 1U        | 1   | 2   | 3 | 4U        | 4 | 5   | 6   |            | 7 | 8 | 9 |            | 10  | 11 | 12 |
| Priority                   |           |     |     |   |           |   |     |     |            |   |   |   |            |     |    |    |
| Number of Lanes            | 0         | 1   | 1   | 0 | 0         | 0 | 1   | 0   |            | 0 | 0 | 0 |            | 0   | 1  | 0  |
| Configuration              |           | L   | T   |   |           |   |     | TR  |            |   |   |   |            |     | LR |    |
| Volume (veh/h)             |           | 112 | 454 |   |           |   | 318 | 116 |            |   |   |   |            | 104 |    | 57 |
| Percent Heavy Vehicles (%) |           | 3   |     |   |           |   |     |     |            |   |   |   |            | 3   |    | 3  |
| Proportion Time Blocked    |           |     |     |   |           |   |     |     |            |   |   |   |            |     |    |    |
| Percent Grade (%)          |           |     |     |   |           |   |     |     |            |   |   |   |            | -8  |    |    |
| Right Turn Channelized     |           |     |     |   |           |   |     |     |            |   |   |   |            |     |    |    |
| Median Type   Storage      |           |     |     |   | Left Only |   |     |     |            |   |   |   | 1          |     |    |    |

## Critical and Follow-up Headways

|                              |  |      |  |  |  |  |  |  |  |  |  |  |  |      |  |      |
|------------------------------|--|------|--|--|--|--|--|--|--|--|--|--|--|------|--|------|
| Base Critical Headway (sec)  |  | 4.1  |  |  |  |  |  |  |  |  |  |  |  | 6.1  |  | 4.9  |
| Critical Headway (sec)       |  | 4.13 |  |  |  |  |  |  |  |  |  |  |  | 3.83 |  | 4.13 |
| Base Follow-Up Headway (sec) |  | 2.2  |  |  |  |  |  |  |  |  |  |  |  | 3.5  |  | 3.3  |
| Follow-Up Headway (sec)      |  | 2.23 |  |  |  |  |  |  |  |  |  |  |  | 3.53 |  | 3.33 |

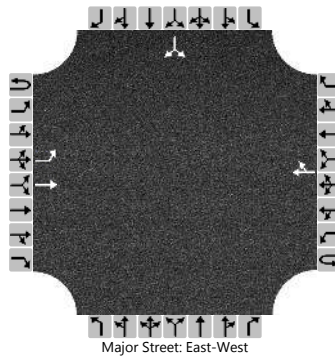
## Delay, Queue Length, and Level of Service

|   |  |      |  |  |  |  |  |  |  |  |  |  |   |      |  |      |  |
|---|--|------|--|--|--|--|--|--|--|--|--|--|---|------|--|------|--|
| Flow Rate, v (veh/h)                    |  | 122  |  |  |  |  |  |  |  |  |  |  |   |      |  | 175  |  |
| Capacity, c (veh/h)                     |  | 1081 |  |  |  |  |  |  |  |  |  |  |   |      |  | 767  |  |
| v/c Ratio                               |  | 0.11 |  |  |  |  |  |  |  |  |  |  |   |      |  | 0.23 |  |
| 95% Queue Length, Q <sub>95</sub> (veh) |  | 0.4  |  |  |  |  |  |  |  |  |  |  |   |      |  | 0.9  |  |
| Control Delay (s/veh)                   |  | 8.8  |  |  |  |  |  |  |  |  |  |  |   |      |  | 11.1 |  |
| Level of Service (LOS)                  |  | A    |  |  |  |  |  |  |  |  |  |  |   |      |  | B    |  |
| Approach Delay (s/veh)                  |  | 1.7  |  |  |  |  |  |  |  |  |  |  |   | 11.1 |  |      |  |
| Approach LOS                            |  |      |  |  |  |  |  |  |  |  |  |  | B |      |  |      |  |

# HCS7 Two-Way Stop-Control Report

| General Information      |                                   |  |  | Site Information           |                |  |  |
|--------------------------|-----------------------------------|--|--|----------------------------|----------------|--|--|
| Analyst                  | Chris Hawkins                     |  |  | Intersection               | Old Mill/SR 28 |  |  |
| Agency/Co.               | LSC                               |  |  | Jurisdiction               |                |  |  |
| Date Performed           | 3/5/2019                          |  |  | East/West Street           | SR28           |  |  |
| Analysis Year            | 2019                              |  |  | North/South Street         | Old Mill       |  |  |
| Time Analyzed            |                                   |  |  | Peak Hour Factor           | 0.92           |  |  |
| Intersection Orientation | East-West                         |  |  | Analysis Time Period (hrs) | 0.25           |  |  |
| Project Description      | Tahoe XC Winter Future PP Ex Site |  |  |                            |                |  |  |

## Lanes



## Vehicle Volumes and Adjustments

| Approach                   | Eastbound |           |     |   | Westbound |   |     |    | Northbound |   |   |   | Southbound |     |    |    |  |
|----------------------------|-----------|-----------|-----|---|-----------|---|-----|----|------------|---|---|---|------------|-----|----|----|--|
|                            | U         | L         | T   | R | U         | L | T   | R  | U          | L | T | R | U          | L   | T  | R  |  |
| Movement                   | 1U        | 1         | 2   | 3 | 4U        | 4 | 5   | 6  |            | 7 | 8 | 9 |            | 10  | 11 | 12 |  |
| Priority                   |           |           |     |   |           |   |     |    |            |   |   |   |            |     |    |    |  |
| Number of Lanes            | 0         | 1         | 1   | 0 | 0         | 0 | 1   | 0  |            | 0 | 0 | 0 |            | 0   | 1  | 0  |  |
| Configuration              |           | L         | T   |   |           |   |     | TR |            |   |   |   |            |     | LR |    |  |
| Volume (veh/h)             |           | 41        | 458 |   |           |   | 390 | 7  |            |   |   |   |            | 2   |    | 45 |  |
| Percent Heavy Vehicles (%) |           | 3         |     |   |           |   |     |    |            |   |   |   |            | 3   |    | 3  |  |
| Proportion Time Blocked    |           |           |     |   |           |   |     |    |            |   |   |   |            |     |    |    |  |
| Percent Grade (%)          |           |           |     |   |           |   |     |    |            |   |   |   |            | -10 |    |    |  |
| Right Turn Channelized     |           |           |     |   |           |   |     |    |            |   |   |   |            |     |    |    |  |
| Median Type   Storage      |           | Undivided |     |   |           |   |     |    |            |   |   |   |            |     |    |    |  |

## Critical and Follow-up Headways

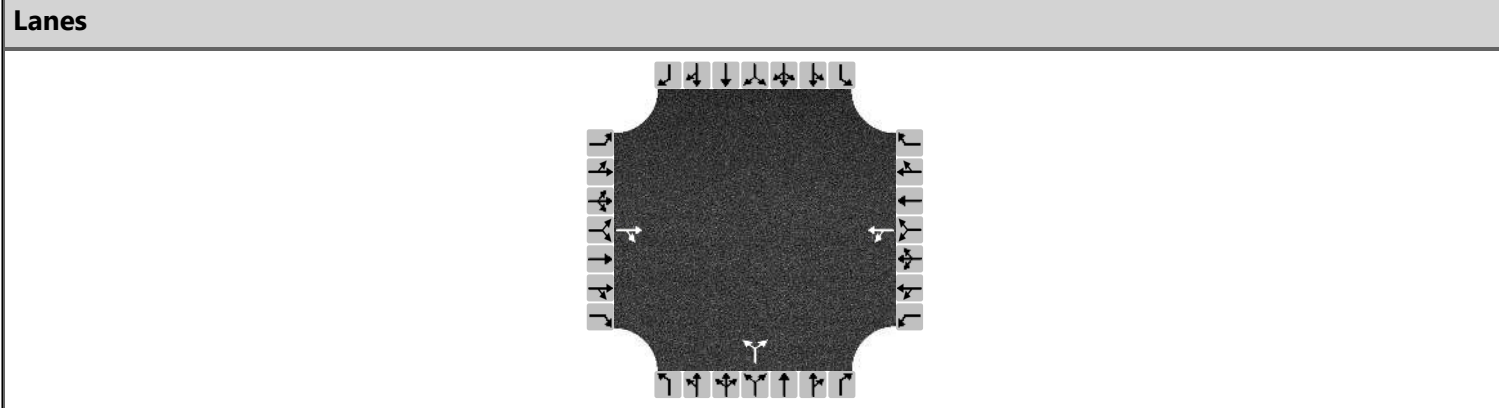
|                              |  |      |  |  |  |  |  |  |  |  |  |  |  |      |  |      |
|------------------------------|--|------|--|--|--|--|--|--|--|--|--|--|--|------|--|------|
| Base Critical Headway (sec)  |  | 4.1  |  |  |  |  |  |  |  |  |  |  |  | 7.1  |  | 6.2  |
| Critical Headway (sec)       |  | 4.13 |  |  |  |  |  |  |  |  |  |  |  | 4.43 |  | 5.23 |
| Base Follow-Up Headway (sec) |  | 2.2  |  |  |  |  |  |  |  |  |  |  |  | 3.5  |  | 3.3  |
| Follow-Up Headway (sec)      |  | 2.23 |  |  |  |  |  |  |  |  |  |  |  | 3.53 |  | 3.33 |

## Delay, Queue Length, and Level of Service

|   |  |      |  |  |  |  |  |  |  |  |  |  |  |      |  |      |
|---|--|------|--|--|--|--|--|--|--|--|--|--|--|------|--|------|
| Flow Rate, v (veh/h)                    |  | 45   |  |  |  |  |  |  |  |  |  |  |  |      |  | 51   |
| Capacity, c (veh/h)                     |  | 1123 |  |  |  |  |  |  |  |  |  |  |  |      |  | 726  |
| v/c Ratio                               |  | 0.04 |  |  |  |  |  |  |  |  |  |  |  |      |  | 0.07 |
| 95% Queue Length, Q <sub>95</sub> (veh) |  | 0.1  |  |  |  |  |  |  |  |  |  |  |  |      |  | 0.2  |
| Control Delay (s/veh)                   |  | 8.3  |  |  |  |  |  |  |  |  |  |  |  |      |  | 10.3 |
| Level of Service (LOS)                  |  | A    |  |  |  |  |  |  |  |  |  |  |  |      |  | B    |
| Approach Delay (s/veh)                  |  | 0.7  |  |  |  |  |  |  |  |  |  |  |  | 10.3 |  |      |
| Approach LOS                            |  |      |  |  |  |  |  |  |  |  |  |  |  | B    |  |      |

# HCS7 All-Way Stop Control Report

| General Information        |                                      | Site Information   |                     |
|----------------------------|--------------------------------------|--------------------|---------------------|
| Analyst                    | Chris Hawkins                        | Intersection       | Polaris/Old Mill Rd |
| Agency/Co.                 | LSC                                  | Jurisdiction       |                     |
| Date Performed             | 3/22/2019                            | East/West Street   | Polaris             |
| Analysis Year              | 2019                                 | North/South Street | Old Mill            |
| Analysis Time Period (hrs) | 0.25                                 | Peak Hour Factor   | 0.92                |
| Time Analyzed              |                                      |                    |                     |
| Project Description        | Tahoe XC Winter PM Future PP Ex Site |                    |                     |



**Vehicle Volume and Adjustments**

| Approach               | Eastbound |     |    | Westbound |    |    | Northbound |    |    | Southbound |    |    |
|------------------------|-----------|-----|----|-----------|----|----|------------|----|----|------------|----|----|
|                        | L         | T   | R  | L         | T  | R  | L          | T  | R  | L          | T  | R  |
| Movement               |           |     |    |           |    |    |            |    |    |            |    |    |
| Volume                 |           | 119 | 78 | 3         | 63 |    | 44         |    | 4  |            |    |    |
| % Thrus in Shared Lane |           |     |    |           |    |    |            |    |    |            |    |    |
| Lane                   | L1        | L2  | L3 | L1        | L2 | L3 | L1         | L2 | L3 | L1         | L2 | L3 |
| Configuration          | TR        |     |    | LT        |    |    | LR         |    |    |            |    |    |
| Flow Rate, v (veh/h)   | 214       |     |    | 72        |    |    | 52         |    |    |            |    |    |
| Percent Heavy Vehicles | 3         |     |    | 3         |    |    | 3          |    |    |            |    |    |

**Departure Headway and Service Time**

|                                   |       |  |  |       |  |  |       |  |  |  |  |  |
|-----------------------------------|-------|--|--|-------|--|--|-------|--|--|--|--|--|
| Initial Departure Headway, hd (s) | 3.20  |  |  | 3.20  |  |  | 3.20  |  |  |  |  |  |
| Initial Degree of Utilization, x  | 0.190 |  |  | 0.064 |  |  | 0.046 |  |  |  |  |  |
| Final Departure Headway, hd (s)   | 3.91  |  |  | 4.29  |  |  | 4.67  |  |  |  |  |  |
| Final Degree of Utilization, x    | 0.233 |  |  | 0.085 |  |  | 0.068 |  |  |  |  |  |
| Move-Up Time, m (s)               | 2.0   |  |  | 2.0   |  |  | 2.0   |  |  |  |  |  |
| Service Time, ts (s)              | 1.91  |  |  | 2.29  |  |  | 2.67  |  |  |  |  |  |

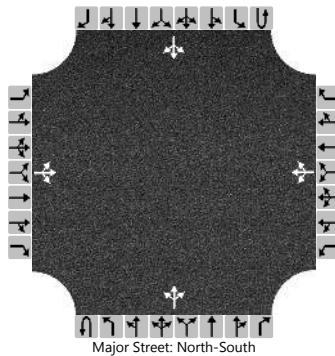
**Capacity, Delay and Level of Service**

|   |     |  |  |     |  |  |     |  |  |  |  |  |
|---|-----|--|--|-----|--|--|-----|--|--|--|--|--|
| Flow Rate, v (veh/h)                    | 214 |  |  | 72  |  |  | 52  |  |  |  |  |  |
| Capacity                                | 920 |  |  | 840 |  |  | 770 |  |  |  |  |  |
| 95% Queue Length, Q <sub>95</sub> (veh) | 0.9 |  |  | 0.3 |  |  | 0.2 |  |  |  |  |  |
| Control Delay (s/veh)                   | 8.1 |  |  | 7.7 |  |  | 8.0 |  |  |  |  |  |
| Level of Service, LOS                   | A   |  |  | A   |  |  | A   |  |  |  |  |  |
| Approach Delay (s/veh)                  | 8.1 |  |  | 7.7 |  |  | 8.0 |  |  |  |  |  |
| Approach LOS                            | A   |  |  | A   |  |  | A   |  |  |  |  |  |
| Intersection Delay, s/veh   LOS         | 8.0 |  |  |     |  |  | A   |  |  |  |  |  |

# HCS7 Two-Way Stop-Control Report

| General Information      |                                       |  |  | Site Information           |                    |  |  |
|--------------------------|---------------------------------------|--|--|----------------------------|--------------------|--|--|
| Analyst                  | Chris Hawkins                         |  |  | Intersection               | Village/Polaris Rd |  |  |
| Agency/Co.               | LSC                                   |  |  | Jurisdiction               |                    |  |  |
| Date Performed           | 3/5/2019                              |  |  | East/West Street           | Polaris rd         |  |  |
| Analysis Year            | 2019                                  |  |  | North/South Street         | Village Rd         |  |  |
| Time Analyzed            | PM                                    |  |  | Peak Hour Factor           | 0.92               |  |  |
| Intersection Orientation | North-South                           |  |  | Analysis Time Period (hrs) | 0.25               |  |  |
| Project Description      | Tahoe XC - Winter Existing PP Ex Site |  |  |                            |                    |  |  |

## Lanes



## Vehicle Volumes and Adjustments

| Approach                   | Eastbound |    |     |    | Westbound |   |     |   | Northbound |    |     |   | Southbound |   |     |   |
|----------------------------|-----------|----|-----|----|-----------|---|-----|---|------------|----|-----|---|------------|---|-----|---|
|                            | U         | L  | T   | R  | U         | L | T   | R | U          | L  | T   | R | U          | L | T   | R |
| Movement                   |           |    |     |    |           |   |     |   |            |    |     |   |            |   |     |   |
| Priority                   |           | 10 | 11  | 12 |           | 7 | 8   | 9 | 1U         | 1  | 2   | 3 | 4U         | 4 | 5   | 6 |
| Number of Lanes            |           | 0  | 1   | 0  |           | 0 | 1   | 0 | 0          | 0  | 1   | 0 | 0          | 0 | 1   | 0 |
| Configuration              |           |    | LTR |    |           |   | LTR |   |            |    | LTR |   |            |   | LTR |   |
| Volume (veh/h)             |           | 4  | 0   | 98 |           | 0 | 0   | 0 |            | 53 | 112 | 0 |            | 0 | 41  | 2 |
| Percent Heavy Vehicles (%) |           | 3  | 3   | 3  |           | 3 | 3   | 3 |            | 3  |     |   |            | 3 |     |   |
| Proportion Time Blocked    |           |    |     |    |           |   |     |   |            |    |     |   |            |   |     |   |
| Percent Grade (%)          | 0         |    |     |    | -5        |   |     |   |            |    |     |   |            |   |     |   |
| Right Turn Channelized     |           |    |     |    |           |   |     |   |            |    |     |   |            |   |     |   |
| Median Type   Storage      | Undivided |    |     |    |           |   |     |   |            |    |     |   |            |   |     |   |

## Critical and Follow-up Headways

|                              |  |      |      |      |  |      |      |      |  |      |  |  |  |      |  |  |
|------------------------------|--|------|------|------|--|------|------|------|--|------|--|--|--|------|--|--|
| Base Critical Headway (sec)  |  | 7.1  | 6.5  | 6.2  |  | 7.1  | 6.5  | 6.2  |  | 4.1  |  |  |  | 4.1  |  |  |
| Critical Headway (sec)       |  | 7.13 | 6.53 | 6.23 |  | 6.13 | 5.53 | 5.73 |  | 4.13 |  |  |  | 4.13 |  |  |
| Base Follow-Up Headway (sec) |  | 3.5  | 4.0  | 3.3  |  | 3.5  | 4.0  | 3.3  |  | 2.2  |  |  |  | 2.2  |  |  |
| Follow-Up Headway (sec)      |  | 3.53 | 4.03 | 3.33 |  | 3.53 | 4.03 | 3.33 |  | 2.23 |  |  |  | 2.23 |  |  |

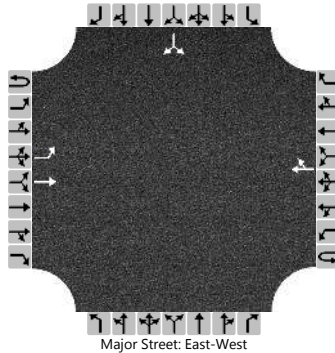
## Delay, Queue Length, and Level of Service

|   |     |  |      |  |  |  |   |  |     |      |  |  |     |      |  |  |
|---|-----|--|------|--|--|--|---|--|-----|------|--|--|-----|------|--|--|
| Flow Rate, v (veh/h)                    |     |  | 111  |  |  |  | 0 |  |     | 58   |  |  |     | 0    |  |  |
| Capacity, c (veh/h)                     |     |  | 998  |  |  |  |   |  |     | 1554 |  |  |     | 1459 |  |  |
| v/c Ratio                               |     |  | 0.11 |  |  |  |   |  |     | 0.04 |  |  |     | 0.00 |  |  |
| 95% Queue Length, Q <sub>95</sub> (veh) |     |  | 0.4  |  |  |  |   |  |     | 0.1  |  |  |     | 0.0  |  |  |
| Control Delay (s/veh)                   |     |  | 9.1  |  |  |  |   |  |     | 7.4  |  |  |     | 7.5  |  |  |
| Level of Service (LOS)                  |     |  | A    |  |  |  |   |  |     | A    |  |  |     | A    |  |  |
| Approach Delay (s/veh)                  | 9.1 |  |      |  |  |  |   |  | 2.6 |      |  |  | 0.0 |      |  |  |
| Approach LOS                            | A   |  |      |  |  |  |   |  |     |      |  |  |     |      |  |  |

# HCS7 Two-Way Stop-Control Report

| General Information      |   |  |  | Site Information           |            |  |  |
|--------------------------|---|--|--|----------------------------|------------|--|--|
| Analyst                  | Chris Hawkins                             |  |  | Intersection               | SR28Fabian |  |  |
| Agency/Co.               | LSC                                       |  |  | Jurisdiction               |            |  |  |
| Date Performed           | 3/5/2019                                  |  |  | East/West Street           | SR 28      |  |  |
| Analysis Year            | 2019                                      |  |  | North/South Street         | Fabian Way |  |  |
| Time Analyzed            | 2   |  |  | Peak Hour Factor           | 0.92       |  |  |
| Intersection Orientation | East-West                                 |  |  | Analysis Time Period (hrs) | 0.25       |  |  |
| Project Description      | Tahoe XC Winter Weekend Future PP Ex Site |  |  |                            |            |  |  |

## Lanes



## Vehicle Volumes and Adjustments

| Approach                   | Eastbound |    |     |   | Westbound |   |     |    | Northbound |   |   |   | Southbound |    |    |    |
|----------------------------|-----------|----|-----|---|-----------|---|-----|----|------------|---|---|---|------------|----|----|----|
|                            | U         | L  | T   | R | U         | L | T   | R  | U          | L | T | R | U          | L  | T  | R  |
| Movement                   | 1U        | 1  | 2   | 3 | 4U        | 4 | 5   | 6  |            | 7 | 8 | 9 |            | 10 | 11 | 12 |
| Priority                   |           |    |     |   |           |   |     |    |            |   |   |   |            |    |    |    |
| Number of Lanes            | 0         | 1  | 1   | 0 | 0         | 0 | 1   | 0  |            | 0 | 0 | 0 |            | 0  | 1  | 0  |
| Configuration              |           | L  | T   |   |           |   |     | TR |            |   |   |   |            |    | LR |    |
| Volume (veh/h)             |           | 92 | 783 |   |           |   | 514 | 97 |            |   |   |   |            | 80 |    | 76 |
| Percent Heavy Vehicles (%) |           | 3  |     |   |           |   |     |    |            |   |   |   |            | 3  |    | 3  |
| Proportion Time Blocked    |           |    |     |   |           |   |     |    |            |   |   |   |            |    |    |    |
| Percent Grade (%)          |           |    |     |   |           |   |     |    |            |   |   |   |            | -8 |    |    |
| Right Turn Channelized     |           |    |     |   |           |   |     |    |            |   |   |   |            |    |    |    |
| Median Type   Storage      |           |    |     |   | Left Only |   |     |    |            |   |   |   | 1          |    |    |    |

## Critical and Follow-up Headways

|                              |  |      |  |  |  |  |  |  |  |  |  |  |  |      |  |      |
|------------------------------|--|------|--|--|--|--|--|--|--|--|--|--|--|------|--|------|
| Base Critical Headway (sec)  |  | 4.1  |  |  |  |  |  |  |  |  |  |  |  | 7.1  |  | 6.2  |
| Critical Headway (sec)       |  | 4.13 |  |  |  |  |  |  |  |  |  |  |  | 4.83 |  | 5.43 |
| Base Follow-Up Headway (sec) |  | 2.2  |  |  |  |  |  |  |  |  |  |  |  | 3.5  |  | 3.3  |
| Follow-Up Headway (sec)      |  | 2.23 |  |  |  |  |  |  |  |  |  |  |  | 3.53 |  | 3.33 |

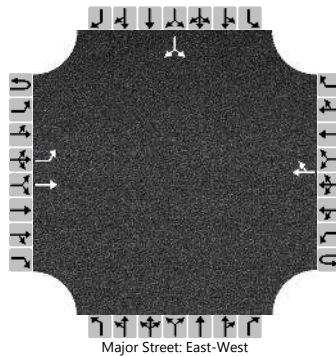
## Delay, Queue Length, and Level of Service

|   |  |      |  |  |  |  |  |  |  |  |  |  |   |      |  |      |  |
|---|--|------|--|--|--|--|--|--|--|--|--|--|---|------|--|------|--|
| Flow Rate, v (veh/h)                    |  | 100  |  |  |  |  |  |  |  |  |  |  |   |      |  | 170  |  |
| Capacity, c (veh/h)                     |  | 917  |  |  |  |  |  |  |  |  |  |  |   |      |  | 672  |  |
| v/c Ratio                               |  | 0.11 |  |  |  |  |  |  |  |  |  |  |   |      |  | 0.25 |  |
| 95% Queue Length, Q <sub>95</sub> (veh) |  | 0.4  |  |  |  |  |  |  |  |  |  |  |   |      |  | 1.0  |  |
| Control Delay (s/veh)                   |  | 9.4  |  |  |  |  |  |  |  |  |  |  |   |      |  | 12.2 |  |
| Level of Service (LOS)                  |  | A    |  |  |  |  |  |  |  |  |  |  |   |      |  | B    |  |
| Approach Delay (s/veh)                  |  | 1.0  |  |  |  |  |  |  |  |  |  |  |   | 12.2 |  |      |  |
| Approach LOS                            |  |      |  |  |  |  |  |  |  |  |  |  | B |      |  |      |  |

# HCS7 Two-Way Stop-Control Report

| General Information      |   |  |  | Site Information           |                |  |  |
|--------------------------|---|--|--|----------------------------|----------------|--|--|
| Analyst                  | Chris Hawkins                               |  |  | Intersection               | Old Mill/SR 28 |  |  |
| Agency/Co.               | LSC   |  |  | Jurisdiction               |                |  |  |
| Date Performed           | 3/5/2019                                    |  |  | East/West Street           | SR28           |  |  |
| Analysis Year            | 2019  |  |  | North/South Street         | Old Mill       |  |  |
| Time Analyzed            |   |  |  | Peak Hour Factor           | 0.92           |  |  |
| Intersection Orientation | East-West                                   |  |  | Analysis Time Period (hrs) | 0.25           |  |  |
| Project Description      | Tahoe XC Winter Future PP - Weekend Ex Site |  |  |                            |                |  |  |

## Lanes



## Vehicle Volumes and Adjustments

| Approach                   | Eastbound |    |     |   | Westbound |   |     |    | Northbound |   |   |   | Southbound |    |    |     |
|----------------------------|-----------|----|-----|---|-----------|---|-----|----|------------|---|---|---|------------|----|----|-----|
|                            | U         | L  | T   | R | U         | L | T   | R  | U          | L | T | R | U          | L  | T  | R   |
| Movement                   | 1U        | 1  | 2   | 3 | 4U        | 4 | 5   | 6  |            | 7 | 8 | 9 |            | 10 | 11 | 12  |
| Priority                   |           |    |     |   |           |   |     |    |            |   |   |   |            |    |    |     |
| Number of Lanes            | 0         | 1  | 1   | 0 | 0         | 0 | 1   | 0  |            | 0 | 0 | 0 |            | 0  | 1  | 0   |
| Configuration              |           | L  | T   |   |           |   |     | TR |            |   |   |   |            |    | LR |     |
| Volume (veh/h)             |           | 24 | 854 |   |           |   | 600 | 2  |            |   |   |   |            | 4  |    | 27  |
| Percent Heavy Vehicles (%) |           | 3  |     |   |           |   |     |    |            |   |   |   |            | 3  |    | 3   |
| Proportion Time Blocked    |           |    |     |   |           |   |     |    |            |   |   |   |            |    |    |     |
| Percent Grade (%)          |           |    |     |   |           |   |     |    |            |   |   |   |            |    |    | -10 |
| Right Turn Channelized     |           |    |     |   |           |   |     |    |            |   |   |   |            |    |    |     |
| Median Type   Storage      | Undivided |    |     |   |           |   |     |    |            |   |   |   |            |    |    |     |

## Critical and Follow-up Headways

|                              |  |      |  |  |  |  |  |  |  |  |  |  |  |      |  |      |
|------------------------------|--|------|--|--|--|--|--|--|--|--|--|--|--|------|--|------|
| Base Critical Headway (sec)  |  | 4.1  |  |  |  |  |  |  |  |  |  |  |  | 7.1  |  | 6.2  |
| Critical Headway (sec)       |  | 4.13 |  |  |  |  |  |  |  |  |  |  |  | 4.43 |  | 5.23 |
| Base Follow-Up Headway (sec) |  | 2.2  |  |  |  |  |  |  |  |  |  |  |  | 3.5  |  | 3.3  |
| Follow-Up Headway (sec)      |  | 2.23 |  |  |  |  |  |  |  |  |  |  |  | 3.53 |  | 3.33 |

## Delay, Queue Length, and Level of Service

|   |  |      |  |  |  |  |  |  |  |  |  |  |  |      |  |      |  |
|---|--|------|--|--|--|--|--|--|--|--|--|--|--|------|--|------|--|
| Flow Rate, v (veh/h)                    |  | 26   |  |  |  |  |  |  |  |  |  |  |  |      |  | 34   |  |
| Capacity, c (veh/h)                     |  | 928  |  |  |  |  |  |  |  |  |  |  |  |      |  | 633  |  |
| v/c Ratio                               |  | 0.03 |  |  |  |  |  |  |  |  |  |  |  |      |  | 0.05 |  |
| 95% Queue Length, Q <sub>95</sub> (veh) |  | 0.1  |  |  |  |  |  |  |  |  |  |  |  |      |  | 0.2  |  |
| Control Delay (s/veh)                   |  | 9.0  |  |  |  |  |  |  |  |  |  |  |  |      |  | 11.0 |  |
| Level of Service (LOS)                  |  | A    |  |  |  |  |  |  |  |  |  |  |  |      |  | B    |  |
| Approach Delay (s/veh)                  |  | 0.2  |  |  |  |  |  |  |  |  |  |  |  | 11.0 |  |      |  |
| Approach LOS                            |  |      |  |  |  |  |  |  |  |  |  |  |  | B    |  |      |  |