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Traffic Study

TRAFFIC IMPACT REPORT
PROPOSED DAKOTA SHY WINERY
ALONG SILVERADO TRAIL
AND SAGE CANYON ROAD
IN THE NAPA VALLEY

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I. INTRODUCTION

This traffic report has been prepared at the request of the Napa County Public Works and Planning, Building and Environmental Sciences Departments as authorized by the Dakota Shy Winery applicant. It has determined if traffic from the proposed Dakota Shy Winery expansion will result in any significant impacts to the local circulation system and the need for any mitigation measures.

II. SCOPE OF SERVICES

The scope of service for this traffic study was approved by the Napa County Public Works and the Planning, Building and Environmental Sciences departments. Evaluation was conducted for both harvest and summer (non-harvest) traffic periods for Friday AM and PM commute and Saturday afternoon peak traffic conditions. Existing, year 2020 and year 2030 (Cumulative – General Plan Buildout) horizons were evaluated both with and without project traffic. Operating conditions along Silverado Trail and Sage Canyon Road (SR 128) as well as at the Silverado Trail/Sage Canyon Road intersection were evaluated for all analysis scenarios based upon significance criteria contained in the General Plan and/or utilized in all recent County traffic studies. In addition, sight line adequacy was evaluated at the project driveway intersections with Sage Canyon Road and Silverado Trail. Finally, the need for a left turn lane on Sage Canyon Road at the proposed inbound only project entrance driveway was evaluated based upon both County and Caltrans warrant criteria. Significant impacts, if any, were identified and measures listed, if needed, to mitigate all impacts to a less than significant level.

III. SUMMARY OF FINDINGS

A. “WITHOUT PROJECT” OPERATING CONDITIONS

1. Existing Volumes – Harvest 2014

Sage Canyon Road adjacent to the proposed project site now has higher September harvest two-way traffic volumes during the Friday PM peak traffic hour compared to either the Friday AM or Saturday PM peak traffic hours (324 two-way peak hour vehicles from 4:15 to 5:15 PM on Friday versus 184 two-way peak hour vehicles from 7:45 to 8:45 AM on Friday or 254 two-way peak hour vehicles from 2:15 to 3:15 PM on Saturday). Along Silverado Trail, two-way volumes south of Sage Canyon Road are also higher during the Friday PM peak hour compared to the Friday AM or Saturday PM peak hours (about 1,615 Friday PM peak hour vehicles versus 1,010 Friday AM or 1,300 Saturday PM peak hour vehicles). The two driveways serving the project site had a total of 1 vehicle during the Friday AM peak hour, 3 vehicles during the Friday PM peak hour and 5 vehicles during the Saturday PM peak hour. Annual average daily two-way volumes along Sage Canyon Road adjacent to the project site are now 2,850 vehicles based upon Caltrans traffic counts.

2. Year 2014 Harvest or Summer – Circulation System Unacceptable Operation

- **Silverado Trail/Sage Canyon Road** intersection – unacceptable level of service.
 - Friday & Saturday PM peak traffic hours
- **Silverado Trail/Sage Canyon Road** intersection – volumes exceed peak hour signal warrant criteria levels.
 - Friday AM & PM peak hours and Saturday PM peak hour
- **Silverado Trail** roadway segments – unacceptable level of service.
 - Friday PM peak hour – southbound (north and south of Sage Canyon Road)

3. Year 2020 Harvest or Summer – Circulation System Unacceptable Operation

- **Silverado Trail/Sage Canyon Road** intersection – unacceptable level of service.
 - Friday & Saturday PM peak traffic hours
- **Silverado Trail/Sage Canyon Road** intersection – volumes exceed peak hour signal warrant criteria levels.
 - Friday AM & PM peak hours and Saturday PM peak hour
- **Silverado Trail** roadway segments – unacceptable level of service.
 - Friday PM peak hour – southbound (north and south of Sage Canyon Road)

4. Year 2030 Harvest or Summer – Circulation System Unacceptable Operation

- **Silverado Trail/Sage Canyon Road** intersection – unacceptable level of service.
 - Friday & Saturday PM peak traffic hours
- **Silverado Trail/Sage Canyon Road** intersection – volumes exceed peak hour signal warrant criteria levels.
 - Friday AM & PM peak hours and Saturday PM peak hour
- **Silverado Trail** roadway segments – unacceptable level of service.
 - Friday AM peak hour – northbound (north and south of Sage Canyon Road)
 - Friday and Saturday PM peak hours – southbound (north and south of Sage Canyon Road)

B. PROJECT IMPACTS

1. Project Trip Generation

The proposed project will result in the following trip generation during the Friday and Saturday peak traffic hours.

PROJECT TRIP GENERATION

HARVEST

FRIDAY AM PEAK HOUR* (7:45-8:45)		FRIDAY PM PEAK HOUR* (4:15-5:15)		SATURDAY PM PEAK HOUR* (2:15-3:15)	
INBOUND TRIPS	OUTBOUND TRIPS	INBOUND TRIPS	OUTBOUND TRIPS	INBOUND TRIPS	OUTBOUND TRIPS
2	1	1	1	2	1

SUMMER (NON-HARVEST)

FRIDAY AM PEAK HOUR* (7:45-8:45)		FRIDAY PM PEAK HOUR* (4:15-5:15)		SATURDAY PM PEAK HOUR* (2:15-3:15)	
INBOUND TRIPS	OUTBOUND TRIPS	INBOUND TRIPS	OUTBOUND TRIPS	INBOUND TRIPS	OUTBOUND TRIPS
2	0	1	1	2	1

* Peak hour at the Silverado Trail/Sage Canyon Road intersection.
 Source: *Dakota Shy Winery; compiled by Crane Transportation Group*

Trips during the Friday and Saturday PM peak hours will be visitors by appointment, while trips during the Friday AM peak hour will be employees and, during harvest, possibly a grape delivery truck.

2. **Revised Project Site Access to Sage Canyon Road & Silverado Trail**
 The project will revise existing two-way flow operation on both driveways connecting to Sage Canyon Road to provide inbound flow only on its east driveway and outbound flow only on its west driveway. The project’s Silverado Trail driveway will be limited to emergency vehicle access only.

3. **Year 2014 Existing + Project Off-Cite Circulation Impacts – Harvest or Summer**
 The proposed project would not result in any significant off-site circulation impacts to Silverado Trail, Sage Canyon Road or to the Silverado Trail/Sage Canyon Road intersection. The project would not degrade operation from acceptable to unacceptable at any analyzed location and/or increase peak hour volumes by 1 percent or greater at any location already experiencing unacceptable “Without Project” operation.

4. **Year 2020 Existing + Project Off-Site Circulation Impacts – Harvest or Summer**
 The proposed project would not result in any significant off-site circulation impacts to Silverado Trail, Sage Canyon Road or to the Silverado Trail/Sage Canyon Road intersection. The project would not degrade operation from acceptable to unacceptable at any analyzed location and/or increase peak hour volumes by 1 percent or greater at any location already experiencing unacceptable “Without Project” operation.

5. **Year 2030 Existing + Project Off-Site Circulation Impacts – Harvest or Summer**
 The proposed project would not result in any significant off-site circulation impacts to Silverado Trail, Sage Canyon Road or to the Silverado Trail/Sage Canyon Road

intersection. The project would not degrade operation from acceptable to unacceptable at any analyzed location and/or increase peak hour volumes by 1 percent or greater at any location already experiencing unacceptable “Without Project” operation.

6. **Need for Left Turn Lane on Sage Canyon Road at Project Entrance**
Volumes along Sage Canyon Road at the project entrance in combination with daily volumes on the project driveway will not meet either Caltrans or County warrant criteria for provision of a left turn lane on the westbound Sage Canyon Road approach to the project east (inbound) driveway.
7. **Sight Lines at Project Exit Driveway**
Sight lines are adequate at the project’s proposed outbound (west) driveway connection to Sage Canyon Road.
8. **Mitigations**
There are no required mitigations other than maintaining landscaping along the project’s Sage Canyon Road frontage to provide acceptable sight lines for drivers turning from the project exit and scheduling the two marketing events to eliminate guest and hired event staff traffic from the local circulation system between 2:00 and 6:00 PM on both days.

C. CONCLUSIONS & RECOMMENDATIONS

The project would result in no significant off-site circulation system operational impacts to Silverado Trail and Sage Canyon Road or to the Silverado Trail/Sage Canyon Road intersection. Project traffic in combination with ambient traffic volumes along Sage Canyon Road will not meet Caltrans or County warrant criteria for provision of a left turn lane on the westbound Sage Canyon Road approach to the project entrance driveway. In addition, the vast majority of project employee and visitor traffic accessing the site will be coming from Silverado Trail and making a right turn to the inbound (east) driveway. Sight lines at the proposed project outbound driveway connection to Sage Canyon Road will be adequate assuming landscaping along the project frontage is maintained so as not to block existing sight lines. Also, both marketing events should be scheduled to avoid contributing traffic to the local roadway network between 2:00 and 6:00 PM.

IV. PROJECT LOCATION & DESCRIPTION

The Dakota Shy Winery will be located on the west side of Sage Canyon Road and the east side of Silverado Trail (see **Figure 1**). There are currently two driveways along Sage Canyon Road serving the existing residence, guest house and minimal (1,000 gallons per year) winery operation. The east and west driveways are about 1,400 feet and 1,100 feet, respectively, from Silverado Trail. Both have two-way traffic flow and both are gated. Currently, there is also inbound right turn access to the project site for northbound grape haul trucks on Silverado Trail via a driveway connection about 1,200 feet south of the Sage Canyon Road intersection. Grape delivery trucks then exit to Sage Canyon Road.

The proposed project will convert operation of the two driveways along Sage Canyon Road to one-way flow: inbound at the east driveway and outbound at the west driveway, where sight lines are better for turn movements to the state highway. The Silverado Trail entrance will be closed and used for emergency vehicle access.

The proposed Dakota Shy Winery will have the following yearly production and visitor/special event levels.

- 14,000 gallons per year production (increased from 1,000 gallons per year).
- Bottling on-site.
- 98 percent of the grapes will be transported to site (with around 60 percent coming from the south on Silverado Trail and the remaining 38 percent coming from the north on Silverado Trail). All grape truck access to the winery will be from Sage Canyon Road.
- Tours and tasting will be by appointment only – 7 days per week from 10:00 AM to 6:00 PM, maximum 20 visitors per day (resulting in 9 to 10 vehicles).
- Wine release – 2 per year, maximum 40 visitors (15 vehicles) per event on weekends between 10:00 AM and 11:00 PM, with no traffic added during peak traffic periods along Silverado Trail.

V. EXISTING CIRCULATION SYSTEM EVALUATION PROCEDURES

A. ANALYSIS LOCATIONS

At County direction, the following locations have been evaluated.

- 1. Silverado Trail/Sage Canyon Road (SR 128)-Conn Creek Winery driveway intersection (Sage Canyon Road & Conn Creek Winery approaches are stop sign controlled).**
- 2. Sage Canyon Road/Project Driveway intersections.**
- 3. Silverado Trail/Project inbound grape delivery driveway intersection.**
- 4. The Silverado Trail two-lane highway segments just north and south of Sage Canyon Road as well as the Sage Canyon Road two-lane highway segments between Silverado Trail and the project driveways as well as to the east of the project driveways.**

Figure 2 presents a schematic of approach geometrics and control at each analysis intersection.

B. VOLUMES

1. ANALYSIS SEASONS AND DAYS OF THE WEEK

At County request project traffic impacts have been evaluated during both harvest and peak summer (non-harvest) conditions. Based upon more than four years of historical information from Caltrans PeMS (Performance Measurement System) count surveys along SR 29 in the Napa Valley, September has the highest daily volumes of the year (during harvest), with August having the highest summer non-harvest daily volumes of the year. August counts were almost as high as September counts. Therefore, conditions during these two months were selected for evaluation.

In regards to the peak traffic days of the week, the recently released Napa County Travel Behavioral Study¹ shows that the highest weekday volumes in Napa Valley occur on a Friday, with the highest weekend volumes occurring on a Saturday. In addition, historical count data from the City of Napa show that Friday has the highest volumes of any weekday, while Caltrans historical counts for SR 29 between St. Helena and Napa also show that weekday AM and PM peak hour volumes are higher on a Friday than on either a Wednesday or Thursday. Therefore, Friday and Saturday peak traffic conditions were evaluated in this study.

2. COUNT RESULTS

Friday 3:00 to 6:00 PM and Saturday 1:00 to 6:00 PM turn movement counts were conducted by Crane Transportation Group (CTG) in May 2014 at the Silverado Trail/Sage Canyon Road and Sage Canyon Road/Property access driveway intersections. The east driveway is paved and gated, while the west driveway is unpaved but gated. The peak traffic hours were determined to be 4:15-5:15 PM on Friday and 2:15-3:15 PM on Saturday. Friday 7:00-9:00 AM turn movement counts were also conducted by Crane Transportation Group in January 2015 at the Silverado Trail/Sage Canyon Road and Sage Canyon Road/Project property access driveway intersections. The peak traffic hour was 7:45-8:45 AM. Resultant May 2014 and January 2015 peak hour counts are presented in **Appendix Figure 1**. Overall, two-way volumes along Sage Canyon Road at the project entrance were higher during the May Friday PM peak traffic hour (315 vehicles per hour [vph] on Friday versus 250 vph on Saturday). Along Silverado Trail, May two-way volumes south of Sage Canyon Road were higher during the Friday PM peak hour compared to the Saturday PM peak hour (1,581 two-way vehicles versus 1,285 two-way vehicles).

Daily two-way counts were also conducted along Sage Canyon Road adjacent to the project site on Tuesday, Wednesday and Thursday, May 20-22, 2014. Daily two-way volumes were 2,488, 2,601 and 2,652 vehicles, respectively, with a three-day daily two-way average of 2,580 vehicles. However, Caltrans's most recent annual average daily traffic volume for Sage Canyon Road adjacent to the project site is 2,850 vehicles.

¹ Fehr & Peers, December 8, 2014.

3. SEASONAL ADJUSTMENTS

May 2014 and January 2015 peak hour traffic counts were seasonally adjusted to reflect September harvest conditions based upon monthly and day of week adjustment factors utilized in other Napa Valley jurisdictions. Overall, May counts would be expected to increase by about 3 percent to reflect fall harvest conditions, while January counts would be expected to increase about 18 percent to reflect fall harvest conditions. Historical traffic count data from Caltrans as well as past studies, extending back to the Wine Train EIR in 1992, were then utilized to determine the seasonal difference in August versus September weekday and weekend peak hour volumes. While some sources showed August volumes at a few locations in the Napa Valley being the same or a little higher than those in September, overall it was determined that September volumes at the vast majority of locations were slightly higher than August volumes by the following factors.

	September Compared to August Peak Hour Volumes
Weekday	+ 1%
Saturday	+ 2%

Resultant 2014 Friday AM and PM and Saturday PM peak hour harvest volumes are presented in **Figure 3** while summer volumes are presented in **Figure 4**.

C. ROADWAYS

Roadway descriptions are based upon the designation that Silverado Trail runs in a general north-south direction through the project area and Sage Canyon Road runs in an east-west direction.

Sage Canyon Road (State Route 128) will provide the only visitor and employee access to the winery. Adjacent to the project site it has two well-paved 12-foot travel lanes and no paved shoulders, with the exception of a wide paved shoulder area at the east project driveway connection. The posted speed limit is 40 miles per hour and the roadway is level. The highway is straight at each driveway connection, but has a horizontal curve between driveways as well as to the east and west of the project driveways. Sage Canyon Road is stop sign controlled on its single lane westbound approach to Silverado Trail which has been widened to allow left and right turning vehicles to separate. The Conn Creek Winery driveway is the fourth (west) stop sign controlled leg of the Silverado Trail/Sage Canyon Road intersection.

Silverado Trail in the project vicinity has two well-paved 12-foot travel lanes and wide paved shoulders that are signed and striped as Class II bicycle lanes. The posted speed limit is 55 miles per hour at Sage Canyon Road. A left turn lane is provided on the southbound Silverado Trail approach to Sage Canyon Road as well as on the northbound Silverado Trail approach to the same intersection. The northbound left turn serves vehicles turning to the Conn Creek Winery driveway. Silverado Trail is designated State Route 128 north of Sage Canyon Road.

D. INTERSECTION LEVEL OF SERVICE

1. ANALYSIS METHODOLOGY

Transportation engineers and planners commonly use a grading system called level of service (LOS) to measure and describe the operational status of the local roadway network. LOS is a description of the quality of a roadway facility's operation, ranging from LOS A (indicating free-flow traffic conditions with little or no delay) to LOS F (representing oversaturated conditions where traffic flows exceed design capacity, resulting in long queues and delays). Intersections, rather than roadway segments between intersections, are almost always the capacity controlling locations for any circulation system.

Signalized Intersections. For signalized intersections, the 2000 *Highway Capacity Manual* (Transportation Research Board, National Research Council) methodology was utilized. With this methodology, operations are defined by the level of service and average control delay per vehicle (measured in seconds) for the entire intersection. For a signalized intersection, control delay is the portion of the total delay attributed to traffic signal operation. This includes delay associated with deceleration, acceleration, stopping, and moving up in the queue. **Table 1** summarizes the relationship between delay and LOS for signalized intersections.

Unsignalized Intersections. For unsignalized (all-way stop-controlled and side-street stop-controlled) intersections, the 2010 *Highway Capacity Manual* (Transportation Research Board, National Research Council) methodology for unsignalized intersections was utilized. For side-street stop-controlled intersections, operations are defined by the level of service and average control delay per vehicle (measured in seconds), with delay reported for the stop sign controlled approaches or turn movements, although overall delay is also typically reported for intersections along state highways. For all-way stop-controlled intersections, operations are defined by the average control delay for the entire intersection (measured in seconds per vehicle). The delay at an unsignalized intersection incorporates delay associated with deceleration, acceleration, stopping, and moving up in the queue. It should be noted that the 2010 analysis software for unsignalized intersections does not report overall intersection delay. However, the year 2000 software does report overall delay and was utilized to report overall intersection operation. **Table 2** summarizes the relationship between delay and LOS for unsignalized intersections.

2. MINIMUM ACCEPTABLE OPERATION

Napa County has no published minimum level of service standards for unsignalized public road or private driveway intersections. The County General Plan (Policy CIR-16) states that the County shall seek to maintain an arterial Level of Service D or better on all County roadways except where maintaining this desired level of service would require installation of more travel lanes than shown on the Circulation Map. For this study, LOS D has been used for unsignalized intersections as the poorest acceptable operation for the entire intersection, with LOS E as the poorest acceptable operation for a side street stop sign controlled intersection approach. The reason for use of LOS E as the criteria for individual movements and LOS D as the criteria for the overall intersection is that the poorest operation at an unsignalized intersection is typically a specific stop sign controlled movement, unless side street volumes are high, in which case both

the overall intersection and stop sign controlled movement are LOS F. Stop sign controlled intersections along Silverado Trail with low volumes of side street traffic tend to have poor stop sign controlled levels of service, but good to acceptable overall operation. As side street volumes increase, overall intersection operation also tends to degrade, but will usually remain one or more levels of service better than the stop sign controlled movement. When overall operation also degrades to LOS E or F operation, it is an indication of large volumes on the stop sign controlled approach, and the potential need for intersection signalization. The combined use of both criteria allows the County to identify those stop sign controlled intersections that have unacceptable delay for side street traffic as well as a sufficient amount of side street traffic that may meet signal warrant criteria levels.

E. INTERSECTION PEAK HOUR SIGNAL WARRANT EVALUATION

1. ANALYSIS METHODOLOGY

Traffic signals are used to provide an orderly flow of traffic through an intersection. Many times they are needed to offer side street traffic an opportunity to access a major road where high volumes and/or high vehicle speeds block crossing or turn movements. They do not, however, increase the capacity of an intersection (i.e., increase the overall intersection's ability to accommodate additional vehicles) and, in fact, often slightly reduce the number of total vehicles that can pass through an intersection in a given period of time. Signals can also cause an increase in traffic accidents if installed at inappropriate locations.

There are 9 possible tests for determining whether a traffic signal should be considered for installation. These tests, called "warrants", consider criteria such as actual traffic volume, pedestrian volume, presence of school children, and accident history. The intersection volume data together with the available collision histories were compared to warrants contained in the *Manual on Uniform Traffic Control Devices* (MUTCD), Federal Highway Administration, 2012, California Supplement, which has been adopted by the State of California as a replacement for *Caltrans Traffic Manual*. Section 4C of the MUTCD provides guidelines, or warrants, which may indicate need for a traffic signal at an unsignalized intersection. As indicated in the MUTCD, satisfaction of one or more warrants does not necessarily require immediate installation of a traffic signal. It is merely an indication that the local jurisdiction should begin monitoring conditions at that location and that a signal may ultimately be required.

Warrant 3, the peak hour volume warrant, is often used as an initial check of signalization needs since peak hour volume data is typically available and this warrant is usually the first one to be met. Warrant 3 is based on a logarithmic curve and takes only the hour with the highest volume of the day into account.

In areas where there are less than 10,000 people in the immediate vicinity of an intersection or where the travel speeds on the uncontrolled intersection approaches are greater than 40 miles per hour, "rural" warrant criteria apply. They require only 70 percent of the volume levels of

“urban” warrant criteria. The Silverado Trail/Sage Canyon Road intersection is in such a location.

Please see the **Appendix** for the rural warrant chart.

F. ROADWAY SEGMENT LEVEL OF SERVICE

1. ANALYSIS METHODOLOGY

Roadway segment operation for Silverado Trail and Sage Canyon Road has been evaluated based upon criteria developed for Napa County roadways as part of the County General Plan Update in 2007: Napa County General Plan Update EIR – Technical Memorandum for Traffic and Circulation Supporting the Findings and Recommendations by Dowling Associates, February 2007. Table 5 in this report, “Peak Hour Roadway Capacities,” shows the following directional capacity limit-level of service relationships for a two-lane rural highway, such as Silverado Trail, as well as a two-lane collector roadway, such as Sage Canyon Road.

		LOS A	LOS B	LOS C	LOS D	LOS E
2-Lane Rural Highway	Maximum Peak Direction Volumes	100	330	620	870	1200
	Volume/Capacity Ratio	(.08)	(.28)	(.52)	(.73)	(1.00)
2-Lane Collector	Maximum Peak Direction Volumes	73	97	480	760	810
	Volume/Capacity Ratio	(.09)	(.12)	(.59)	(.94)	(1.00)

2. MINIMUM ACCEPTABLE OPERATION

Level of service D (LOS D) is the poorest acceptable roadway segment operation in Napa County.

G. PLANNED IMPROVEMENTS

There are no planned and funded improvements at any location evaluated in this study.²

VI. FUTURE HORIZON TRAFFIC VOLUME PROJECTIONS

Traffic analysis has been conducted for existing, year 2020 and year 2030 horizons at County request. The 2030 horizon reflects the County General Plan Buildout year. Traffic modeling for

² Mr. Paul Wilkinson, Napa County Public Works Department, February 2015.

the General Plan shows a 27 to 32 percent growth in two-way weekday PM peak hour traffic along Silverado Trail in the project area between 2014 and 2030, with about a 39 percent growth in two-way weekday PM peak hour traffic along Sage Canyon Road during the same time period. Projecting straight line traffic growth for analysis purposes, this translates into about a 10 to 12 percent growth in two-way PM peak hour harvest traffic from 2014 to the year 2020 along Silverado Trail, with about a 15 percent growth in two-way PM peak hour harvest traffic from 2014 to 2020 along Sage Canyon Road.

Since reliable traffic modeling projections were available for only weekday PM peak hour conditions and not for the weekday AM or Saturday PM peak hours, north and southbound Friday AM and Saturday PM peak hour volumes on Silverado Trail as well as east and westbound volumes on Sage Canyon Road were both uniformly increased by the percentages above. However, due to the greater detail available for weekday PM peak hour volumes, which showed higher increases in southbound versus northbound traffic on Silverado Trail and higher increases in eastbound versus westbound traffic on Sage Canyon Road, Friday PM peak hour volumes were adjusted directionally, with the guidance that the two-way volume percent increases should be as listed above.

Resultant year 2020 harvest and summer “Without Project” Friday and Saturday peak hour volumes are presented in **Figures 5** and **6**, respectively, while year 2030 harvest and summer “Without Project” Friday and Saturday peak hour volumes are presented in **Figures 7** and **8**, respectively.

VII. OFF-SITE CIRCULATION SYSTEM OPERATION – WITHOUT PROJECT

1. EXISTING OPERATING CONDITIONS (WITHOUT PROJECT)

A. HARVEST

1. INTERSECTION LEVEL OF SERVICE (Silverado Trail/Sage Canyon Road) – Table 3

a) Friday AM Peak Hour

Acceptable overall intersection operation: LOS A

Acceptable Sage Canyon Road stop sign controlled operation: LOS C

b) Friday PM Peak Hour

Unacceptable overall intersection operation: LOS F

Unacceptable Sage Canyon Road stop sign controlled operation: LOS F

c) Saturday PM Peak Hour

Acceptable overall intersection operation: LOS D

Unacceptable Sage Canyon Road stop sign controlled operation: LOS F

2. INTERSECTION PEAK HOUR SIGNAL WARRANT EVALUATION (Silverado Trail/Sage Canyon Road) – Table 4

a) Friday AM Peak Hour

Volumes meet peak hour signal warrant criteria #3.

b) Friday PM Peak Hour

Volumes meet peak hour signal warrant criteria #3.

c) Saturday PM Peak Hour

Volumes meet peak hour signal warrant criteria #3.

3. ROADWAY SEGMENT LEVEL OF SERVICE (Silverado Trail & Sage Canyon Road) – Table 5

a) Friday AM Peak Hour

Silverado Trail: Acceptable operation both north and south of Sage Canyon Road: LOS D northbound and LOS B southbound.

Sage Canyon Road: Acceptable operation in both directions east of Silverado Trail: LOS B eastbound and westbound.

b) Friday PM Peak Hour

Silverado Trail: Acceptable operation northbound, but **unacceptable LOS E operation southbound both north and south of Sage Canyon Road.**

Sage Canyon Road: Acceptable operation in both directions east of Silverado Trail: LOS C eastbound and westbound.

c) Saturday PM Peak Hour

Silverado Trail: Acceptable operation north and south of Sage Canyon Road: LOS C northbound and LOS D southbound.

Sage Canyon Road: Acceptable operation in both directions east of Silverado Trail: LOS C eastbound and westbound.

B. SUMMER (NON-HARVEST)

1. INTERSECTION LEVEL OF SERVICE (Silverado Trail/Sage Canyon Road) – Table 3

a) Friday AM Peak Hour

Acceptable overall intersection operation: LOS A
Acceptable Sage Canyon Road stop sign controlled operation: LOS C

b) Friday PM Peak Hour

Unacceptable overall intersection operation: LOS F
Unacceptable Sage Canyon Road stop sign controlled operation: LOS F

c) Saturday PM Peak Hour

Acceptable overall intersection operation: LOS C
Unacceptable Sage Canyon Road stop sign controlled operation: LOS F

2. INTERSECTION PEAK HOUR SIGNAL WARRANT EVALUATION (Silverado Trail/Sage Canyon Road) – Table 4

a) Friday AM Peak Hour

Volumes meet peak hour signal warrant criteria #3.

b) Friday PM Peak Hour

Volumes meet peak hour signal warrant criteria #3.

c) Saturday PM Peak Hour

Volumes meet peak hour signal warrant criteria #3.

3. ROADWAY SEGMENT LEVEL OF SERVICE (Silverado Trail & Sage Canyon Road) – Table 5

a) Friday AM Peak Hour

Silverado Trail: Acceptable operation both north and south of Sage Canyon Road: LOS D northbound and LOS B southbound.

Sage Canyon Road: Acceptable operation in both directions east of Silverado Trail: LOS B eastbound and westbound.

b) Friday PM Peak Hour

Silverado Trail: Acceptable operation northbound, but **unacceptable LOS E operation southbound both north and south of Sage Canyon Road.**

Sage Canyon Road: Acceptable operation in both directions east of Silverado Trail: LOS C eastbound and westbound.

c) Saturday PM Peak Hour

Silverado Trail: Acceptable operation north and south of Sage Canyon Road: LOS C northbound and LOS D southbound.

Sage Canyon Road: Acceptable operation in both directions east of Silverado Trail: LOS C eastbound and westbound.

2. YEAR 2020 OPERATING CONDITIONS (WITHOUT PROJECT)

A. HARVEST

1. INTERSECTION LEVEL OF SERVICE (Silverado Trail/Sage Canyon Road) – Table 6

a) Friday AM Peak Hour

Acceptable overall intersection operation: LOS A

Acceptable Sage Canyon Road stop sign controlled operation: LOS D

b) Friday PM Peak Hour

Unacceptable overall intersection operation: LOS F

Unacceptable Sage Canyon Road stop sign controlled operation: LOS F

c) Saturday PM Peak Hour

Unacceptable overall intersection operation: LOS F

Unacceptable Sage Canyon Road stop sign controlled operation: LOS F

2. INTERSECTION PEAK HOUR SIGNAL WARRANT EVALUATION (Silverado Trail/Sage Canyon Road) – Table 7

a) Friday AM Peak Hour

Volumes meet peak hour signal warrant criteria #3.

b) Friday PM Peak Hour

Volumes meet peak hour signal warrant criteria #3.

c) Saturday PM Peak Hour

Volumes meet peak hour signal warrant criteria #3.

3. ROADWAY SEGMENT LEVEL OF SERVICE (Silverado Trail & Sage Canyon Road) – Table 8

a) Friday AM Peak Hour

Silverado Trail: Acceptable operation both north and south of Sage Canyon Road: LOS D northbound and LOS B or C southbound.

Sage Canyon Road: Acceptable operation in both directions east of Silverado Trail: LOS C eastbound and westbound.

b) Friday PM Peak Hour

Silverado Trail: Acceptable operation northbound, but **unacceptable LOS F operation southbound both north and south of Sage Canyon Road.**

Sage Canyon Road: Acceptable operation in both directions east of Silverado Trail: LOS C eastbound and westbound.

c) Saturday PM Peak Hour

Silverado Trail: Acceptable operation north and south of Sage Canyon Road: LOS D northbound and southbound.

Sage Canyon Road: Acceptable operation in both directions east of Silverado Trail: LOS C eastbound and westbound.

B. SUMMER (NON-HARVEST)

1. INTERSECTION LEVEL OF SERVICE (Silverado Trail/Sage Canyon Road) – Table 6

a) Friday AM Peak Hour

Acceptable overall intersection operation: LOS A
Acceptable Sage Canyon Road stop sign controlled operation: LOS D

b) Friday PM Peak Hour

Unacceptable overall intersection operation: LOS F
Unacceptable Sage Canyon Road stop sign controlled operation: LOS F

c) Saturday PM Peak Hour

Unacceptable overall intersection operation: LOS F
Unacceptable Sage Canyon Road stop sign controlled operation: LOS F

2. INTERSECTION PEAK HOUR SIGNAL WARRANT EVALUATION (Silverado Trail/Sage Canyon Road) – Table 7

a) Friday AM Peak Hour

Volumes meet peak hour signal warrant criteria #3.

b) Friday PM Peak Hour

Volumes meet peak hour signal warrant criteria #3.

c) Saturday PM Peak Hour

Volumes meet peak hour signal warrant criteria #3.

3. ROADWAY SEGMENT LEVEL OF SERVICE (Silverado Trail & Sage Canyon Road) – Table 8

a) Friday AM Peak Hour

Silverado Trail: Acceptable operation both north and south of Sage Canyon Road: LOS D northbound and LOS B or C southbound.

Sage Canyon Road: Acceptable operation in both directions east of Silverado Trail: LOS C eastbound and westbound.

b) Friday PM Peak Hour

Silverado Trail: Acceptable operation northbound, but **unacceptable LOS F operation southbound both north and south of Sage Canyon Road.**

Sage Canyon Road: Acceptable operation in both directions east of Silverado Trail: LOS C eastbound and westbound.

c) Saturday PM Peak Hour

Silverado Trail: Acceptable operation north and south of Sage Canyon Road: LOS D northbound and southbound.

Sage Canyon Road: Acceptable operation in both directions east of Silverado Trail: LOS C eastbound and westbound.

3. YEAR 2030 OPERATING CONDITIONS (WITHOUT PROJECT)

A. HARVEST

1. INTERSECTION LEVEL OF SERVICE (Silverado Trail/Sage Canyon Road) – Table 9

a) Friday AM Peak Hour

Acceptable overall intersection operation: LOS A

Acceptable Sage Canyon Road stop sign controlled operation: LOS E

b) Friday PM Peak Hour

Unacceptable overall intersection operation: LOS F

Unacceptable Sage Canyon Road stop sign controlled operation: LOS F

c) Saturday PM Peak Hour

Unacceptable overall intersection operation: LOS F

Unacceptable Sage Canyon Road stop sign controlled operation: LOS F

2. INTERSECTION PEAK HOUR SIGNAL WARRANT EVALUATION (Silverado Trail/Sage Canyon Road) – Table 10

a) Friday AM Peak Hour

Volumes meet peak hour signal warrant criteria #3.

b) Friday PM Peak Hour

Volumes meet peak hour signal warrant criteria #3.

c) Saturday PM Peak Hour

Volumes meet peak hour signal warrant criteria #3.

3. ROADWAY SEGMENT LEVEL OF SERVICE (Silverado Trail & Sage Canyon Road) – Table 11

a) Friday AM Peak Hour

Silverado Trail: Acceptable operation southbound, but **unacceptable LOS E operation northbound both north and south of Sage Canyon Road.**

Sage Canyon Road: Acceptable operation in both directions east of Silverado Trail: LOS C eastbound and westbound.

b) Friday PM Peak Hour

Silverado Trail: Acceptable operation northbound, but **unacceptable LOS F operation southbound both north and south of Sage Canyon Road.**

Sage Canyon Road: Acceptable operation in both directions east of Silverado Trail: LOS C eastbound and westbound.

c) Saturday PM Peak Hour

Silverado Trail: Acceptable operation northbound, but **unacceptable LOS E operation southbound both north and south of Sage Canyon Road.**

Sage Canyon Road: Acceptable operation in both directions east of Silverado Trail: LOS C eastbound and westbound.

B. SUMMER (NON-HARVEST)

1. INTERSECTION LEVEL OF SERVICE (Silverado Trail/Sage Canyon Road) – Table 9

a) Friday AM Peak Hour

Acceptable overall intersection operation: LOS A
Acceptable Sage Canyon Road stop sign controlled operation: LOS E

b) Friday PM Peak Hour

Unacceptable overall intersection operation: LOS F
Unacceptable Sage Canyon Road stop sign controlled operation: LOS F

c) Saturday PM Peak Hour

Unacceptable overall intersection operation: LOS F
Unacceptable Sage Canyon Road stop sign controlled operation: LOS F

2. INTERSECTION PEAK HOUR SIGNAL WARRANT EVALUATION (Silverado Trail/Sage Canyon Road) – Table 10

a) Friday AM Peak Hour

Volumes meet peak hour signal warrant criteria #3.

b) Friday PM Peak Hour

Volumes meet peak hour signal warrant criteria #3.

c) Saturday PM Peak Hour

Volumes meet peak hour signal warrant criteria #3.

3. ROADWAY SEGMENT LEVEL OF SERVICE (Silverado Trail & Sage Canyon Road) – Table 11

a) Friday AM Peak Hour

Silverado Trail: Acceptable operation southbound, but **unacceptable LOS E operation northbound both north and south of Sage Canyon Road.**

Sage Canyon Road: Acceptable operation in both directions east of Silverado Trail: LOS C eastbound and westbound.

b) Friday PM Peak Hour

Silverado Trail: Acceptable operation northbound, but **unacceptable LOS F operation southbound both north and south of Sage Canyon Road.**

Sage Canyon Road: Acceptable operation in both directions east of Silverado Trail: LOS C eastbound and westbound.

c) Saturday PM Peak Hour

Silverado Trail: Acceptable operation northbound, but **unacceptable LOS E operation southbound both north and south of Sage Canyon Road.**

Sage Canyon Road: Acceptable operation in both directions east of Silverado Trail: LOS C eastbound and westbound.

VIII. PROJECT IMPACT EVALUATION

SIGNIFICANCE CRITERIA

A. SIGNIFICANCE CRITERIA

The following criteria were developed for recent traffic impact analyses in the County. These same criteria have been utilized in this study to determine the significance of impacts due to the project. An impact is considered to be significant if any of the following conditions are met.

- If a roadway segment has “Without Project” LOS A, B, C or D operation and deteriorates to LOS E or F operation with the addition of project traffic (and increases volumes by 1 percent or more), the impact is significant and would require mitigation.
- If a roadway segment already has “Without Project” unacceptable LOS E or F operation, an increase in directional traffic of 1 percent or greater is considered significant and would require mitigation.
- If an unsignalized intersection has “Without Project” overall LOS A, B, C or D operation and deteriorates to LOS E or F operation with the addition of project traffic (and increases volumes by 1 percent or more) – or – has a stop sign controlled movement operating at LOS A, B, C, D or E and deteriorates to LOS F with the additional project traffic (and increases volumes by 1 percent or more), the impact is considered significant and would require mitigation.
- If an unsignalized intersection already has “Without Project” overall LOS E or F operation – or – if a stop sign controlled movement or approach is already operating at LOS F, an increase in traffic passing through the intersection of 1 percent or more due to the project is considered to be significant and would require mitigation.
- If the addition of project traffic to an unsignalized intersection increases “Without Project” volumes to meet peak hour signal warrant criteria levels (and increases volumes by 1 percent or more), the impact is considered significant and would require mitigation.
- If “Without Project” volumes at an unsignalized intersection already meet peak hour signal warrant criteria levels and the level of service is already at an unacceptable level, an increase in traffic of 1 percent or more due to the project is considered significant and would require mitigation.
- If projected daily volumes on the project driveway in combination with volumes on the roadway providing access to the project driveway meet County warrant criteria for provision of a left turn lane on the approach to the project entrance – or – if peak

hour volumes at the project inbound access driveway intersection meet Caltrans left turn lane warrant criteria.

- If sight lines at project access driveways do not meet Caltrans stopping sight distance criteria based upon prevailing vehicle speeds.

IX. PROJECT TRIP GENERATION & DISTRIBUTION

A. TRIP GENERATION

Friday AM and PM peak hour and Saturday afternoon peak hour trip generation projections were developed with the assistance of the project applicant and their representative for all components of the employee, grape delivery and visitor activities at the proposed Dakota Shy Winery (see worksheets in the **Appendix**). Results are presented on an hourly basis in **Tables 12** and **13** for harvest Friday and Saturday conditions, while **Tables 14** and **15** present results for summer Friday and Saturday conditions. A summary of peak hour trips is presented in **Table 16**. During the harvest Friday AM peak traffic hour there would be a projected 2 inbound and 1 outbound vehicles, while during the harvest Friday PM peak traffic hour there would be a projected 1 inbound and 1 outbound vehicles. During the harvest Saturday PM peak traffic hours, there would be a projected 2 inbound and 1 outbound vehicles. As shown, winery administrative and production employees would not be expected on the local roadway network during harvest Friday or Saturday PM peak hour conditions. The visitor-serving employee would also be working until 6:00 PM every day, as tours and tasting by appointment would close at 6:00 PM. Therefore, the only winery-related traffic expected on the local roadway network during both the Friday and Saturday PM peak traffic hours would be visitor traffic related. During the harvest Friday AM peak hour, project trips would be employee related or a grape delivery truck. The one expected grape delivery per day could be scheduled any time between 7:00 AM and 3:00 PM, although morning deliveries would be typical.

Summer project trip generation projections are the same as harvest for the Friday and Saturday PM peak traffic hours. They would be all visitor related. During a summer Friday AM peak hour, there would be no grape delivery, but one additional inbound employee vehicle.

B. TRIP DISTRIBUTION

Project traffic was distributed to Sage Canyon Road and Silverado Trail in a pattern reflective of existing distribution patterns at the Silverado Trail/Sage Canyon Road intersection as well as existing traffic distribution at project driveway connections to Sage Canyon Road. Virtually all visitor and employee traffic would be expected to travel to/from the west on Sage Canyon Road to Silverado Trail. During the eight hours of turn counts at the project driveway intersections, about 75 percent of all turn movements at project driveways were to or from the west (and Silverado Trail). Grape truck traffic will travel along Silverado Trail and then access the site via Sage Canyon Road.

Sage Canyon Road access to the project site will change with winery development. The east driveway will be designated and signed for inbound flow only, while the west driveway will be designated and signed for outbound flow only (see **Figure 9**). This one-way loop system will continue to the central part of the site.

The harvest and summer Friday and Saturday project traffic increments expected on Sage Canyon Road and Silverado Trail during the times of ambient peak traffic flows are presented in **Figures 10** and **11**, respectively. Friday and Saturday existing “With Project” peak hour volumes are presented in **Figures 12** and **13**, respectively; “With Project” peak hour volumes for year 2020 conditions are presented in **Figures 14** and **15**, respectively, and “With Project” peak hour volumes for 2030 conditions are presented in **Figures 16** and **17**, respectively.

C. PLANNED ROADWAY IMPROVEMENTS

There are no capacity increasing roadway improvements planned by Caltrans or the County on the local roadway network serving the project site.³

X. PROJECT OFF-SITE IMPACTS

A. EXISTING WITH PROJECT CONDITIONS

1. HARVEST

a) Summary

Project traffic would not result in any significant level of service or signal warrant impacts at the Silverado Trail/Sage Canyon Road intersection, or any level of service impacts along any analyzed Silverado Trail or Sage Canyon Road roadway segments during any Friday or Saturday peak traffic hours. *Less than Significant.*

b) Intersection Level of Service (Silverado Trail/Sage Canyon Road) – Table 3

The Silverado Trail/Sage Canyon Road intersection would maintain acceptable Friday AM peak hour operation with the addition of project traffic. During both the Friday and Saturday PM peak hours when the intersection would have unacceptable “Without Project” operation, the project would only increase volumes by 0.1 to 0.2 percent, which would be less than the minimum 1 percent traffic added significance criteria limit. *Less than Significant.*

c) Signalization Needs (Silverado Trail/Sage Canyon Road) – Table 4

³ Paul Wilkinson, Napa County Public Works Department, February 2015.

The Silverado Trail/Sage Canyon Road intersection would have “Without Project” volumes exceeding signal warrant criteria levels during all analyzed Friday and Saturday peak traffic hours. However, the project would only increase volumes by 0.1 to 0.2 percent, which would be less than the minimum 1 percent traffic added significance criteria limit. *Less than Significant.*

d) Roadway Segments (Silverado Trail & Sage Canyon Road) – Table 5

All analyzed roadway segments would maintain acceptable operation with the addition of project traffic during the Friday AM and Saturday PM peak traffic hours. During the Friday PM peak hour, acceptable operation would be maintained along all roadway segments except southbound Silverado Trail, where “Without Project” operation would be an unacceptable LOS E. However, the project would not be expected to add any traffic in this direction, and even a one car addition would be less than a .1 percent addition in traffic. *Less than Significant.*

2. SUMMER (NON-HARVEST)

a) Summary

Project traffic would not result in any significant level of service or signal warrant impacts at the Silverado Trail/Sage Canyon Road intersection, or any level of service impacts along any analyzed Silverado Trail or Sage Canyon Road roadway segments during any Friday or Saturday peak traffic hours. *Less than Significant.*

b) Intersection Level of Service (Silverado Trail/Sage Canyon Road) – Table 3

The Silverado Trail/Sage Canyon Road intersection would maintain acceptable Friday AM peak hour operation with the addition of project traffic. During both the Friday and Saturday PM peak hours when the intersection would have unacceptable “Without Project” operation, the project would only increase volumes by 0.1 to 0.2 percent, which would be less than the minimum 1 percent traffic added significance criteria limit. *Less than Significant.*

c) Signalization Needs (Silverado Trail/Sage Canyon Road) – Table 4

The Silverado Trail/Sage Canyon Road intersection would have “Without Project” volumes exceeding signal warrant criteria levels during all analyzed Friday and Saturday peak traffic hours. However, the project would only increase volumes by 0.1 to 0.2 percent, which would be less than the minimum 1 percent traffic added significance criteria limit. *Less than Significant.*

d) Roadway Segments (Silverado Trail & Sage Canyon Road) – Table 5

All analyzed roadway segments would maintain acceptable operation with the addition of project traffic during the Friday AM and Saturday PM peak traffic hours. During the Friday PM peak

hour acceptable operation would be maintained along all roadway segments except southbound Silverado Trail, where “Without Project” operation would be an unacceptable LOS E. However, the project would not be expected to add any traffic in this direction, and even a one car addition would be less than a 0.1 percent addition in traffic. *Less than Significant.*

B. YEAR 2020 WITH PROJECT CONDITIONS

1. HARVEST

a) Summary

Project traffic would not result in any significant level of service or signal warrant impacts at the Silverado Trail/Sage Canyon Road intersection, or any level of service impacts along any analyzed Silverado Trail or Sage Canyon Road roadway segments during any Friday or Saturday peak traffic hours. *Less than Significant.*

b) Intersection Level of Service (Silverado Trail/Sage Canyon Road) – Table 6

The Silverado Trail/Sage Canyon Road intersection would maintain acceptable Friday AM peak hour operation with the addition of project traffic. During both the Friday and Saturday PM peak hours when the intersection would have unacceptable “Without Project” operation, the project would only increase volumes by 0.1 to 0.2 percent, which would be less than the minimum 1 percent traffic added significance criteria limit. *Less than Significant.*

c) Signalization Needs (Silverado Trail/Sage Canyon Road) – Table 7

The Silverado Trail/Sage Canyon Road intersection would have “Without Project” volumes exceeding signal warrant criteria levels during all analyzed Friday and Saturday peak traffic hours. However, the project would only increase volumes by 0.1 to 0.2 percent, which would be less than the minimum 1 percent traffic added significance criteria limit. *Less than Significant.*

d) Roadway Segments (Silverado Trail & Sage Canyon Road) – Table 8

All analyzed roadway segments would maintain acceptable operation with the addition of project traffic during the Friday AM and Saturday PM peak traffic hours. During the Friday PM peak hour acceptable operation would be maintained along all roadway segments except southbound Silverado Trail north and south of Sage Canyon Road, where “Without Project” operation would be an unacceptable LOS F. However, the project would not be expected to add any traffic in this direction, and even a one car addition would be less than a 0.1 percent addition in traffic. *Less than Significant.*

2. SUMMER (NON-HARVEST)

a) Summary

Project traffic would not result in any significant level of service or signal warrant impacts at the Silverado Trail/Sage Canyon Road intersection, or any level of service impacts along any analyzed Silverado Trail or Sage Canyon Road roadway segments during any Friday or Saturday peak traffic hours. *Less than Significant.*

b) Intersection Level of Service (Silverado Trail/Sage Canyon Road) – Table 6

The Silverado Trail/Sage Canyon Road intersection would maintain acceptable Friday AM peak hour operation with the addition of project traffic. During both the Friday and Saturday PM peak hours when the intersection would have unacceptable “Without Project” operation, the project would only increase volumes by 0.1 to 0.2 percent, which would be less than the minimum 1 percent traffic added significance criteria limit. *Less than Significant.*

c) Signalization Needs (Silverado Trail/Sage Canyon Road) – Table 7

The Silverado Trail/Sage Canyon Road intersection would have “Without Project” volumes exceeding signal warrant criteria levels during all analyzed Friday and Saturday peak traffic hours. However, the project would only increase volumes by 0.1 to 0.2 percent, which would be less than the minimum 1 percent traffic added significance criteria limit. *Less than Significant.*

d) Roadway Segments (Silverado Trail & Sage Canyon Road) – Table 8

All analyzed roadway segments would maintain acceptable operation with the addition of project traffic during the Friday AM and Saturday PM peak traffic hours. During the Friday PM peak hour acceptable operation would be maintained along all roadway segments except southbound Silverado Trail north and south of Sage Canyon Road, where “Without Project” operation would be an unacceptable LOS F. However, the project would not be expected to add any traffic in this direction, and even a one car addition would be less than a 0.1 percent addition in traffic. *Less than Significant.*

C. YEAR 2030 WITH PROJECT CONDITIONS

1. HARVEST

a) Summary

Project traffic would not result in any significant level of service or signal warrant impacts at the Silverado Trail/Sage Canyon Road intersection, or any level of service impacts along any

analyzed Silverado Trail or Sage Canyon Road roadway segments during any Friday or Saturday peak traffic hours. *Less than Significant.*

b) Intersection Level of Service (Silverado Trail/Sage Canyon Road) – Table 9

During all analyzed Friday and Saturday peak traffic hours, the intersection would be experiencing unacceptable “Without Project” operation. However, the project would only increase volumes by 0.1 to 0.2 percent during any of the three peak hours, which would be less than the minimum 1 percent traffic added significance criteria limit. *Less than Significant.*

c) Signalization Needs (Silverado Trail/Sage Canyon Road) – Table 10

The Silverado Trail/Sage Canyon Road intersection would have “Without Project” volumes exceeding signal warrant criteria levels during all analyzed Friday and Saturday peak traffic hours. However, the project would only increase volumes by 0.1 to 0.2 percent, which would be less than the minimum 1 percent traffic added significance criteria limit. *Less than Significant.*

d) Roadway Segments (Silverado Trail & Sage Canyon Road) – Table 11

All analyzed roadway segments would maintain acceptable operation with the addition of project traffic during the Friday AM & PM and Saturday PM peak traffic hours with the following exceptions, where “Without Project” volumes would already be at unacceptable levels.

Friday AM Peak Hour: Northbound Silverado Trail would be operating at LOS E both north and south of Sage Canyon Road with or without project traffic. Project traffic would increase volumes by, at most, 0.1 percent.

Friday PM Peak Hour: Southbound Silverado Trail would be operating at LOS F both north and south of Sage Canyon Road with or without project traffic. No project traffic would be expected to be added to traffic traveling in this direction.

Saturday PM Peak Hour: Southbound Silverado Trail would be operating at LOS E both north and south of Sage Canyon Road with or without project traffic. Project traffic would be expected to increase volumes by, at most, 0.1 percent.

Less than Significant.

2. SUMMER (NON-HARVEST)

a) Summary

Project traffic would not result in any significant level of service or signal warrant impacts at the Silverado Trail/Sage Canyon Road intersection, or any level of service impacts along any

analyzed Silverado Trail or Sage Canyon Road roadway segments during any Friday or Saturday peak traffic hours. *Less than Significant.*

b) Intersection Level of Service (Silverado Trail/Sage Canyon Road) – Table 9

During all analyzed Friday and Saturday peak traffic hours, the intersection would be experiencing unacceptable “Without Project” operation. However, the project would only increase volumes by 0.1 to 0.2 percent during any of the three peak hours, which would be less than the minimum 1 percent traffic added significance criteria limit. *Less than Significant.*

c) Signalization Needs (Silverado Trail/Sage Canyon Road) – Table 10

The Silverado Trail/Sage Canyon Road intersection would have “Without Project” volumes exceeding signal warrant criteria levels during all analyzed Friday and Saturday peak traffic hours. However, the project would only increase volumes by 0.1 to 0.2 percent, which would be less than the minimum 1 percent traffic added significance criteria limit. *Less than Significant.*

d) Roadway Segments (Silverado Trail & Sage Canyon Road) – Table 11

All analyzed roadway segments would maintain acceptable operation with the addition of project traffic during the Friday AM & PM and Saturday PM peak traffic hours with the following exceptions, where “Without Project” volumes would already be at unacceptable levels.

Friday AM Peak Hour: Northbound Silverado Trail would be operating at LOS E both north and south of Sage Canyon Road with or without project traffic. Project traffic would increase volumes by, at most, 0.1 percent.

Friday PM Peak Hour: Southbound Silverado Trail would be operating at LOS F both north and south of Sage Canyon Road with or without project traffic. No project traffic would be expected to be added to traffic traveling in this direction.

Saturday PM Peak Hour: Southbound Silverado Trail would be operating at LOS E both north and south of Sage Canyon Road with or without project traffic. Project traffic would be expected to increase volumes by, at most, 0.1 percent.

Less than Significant.

XI. PROJECT ACCESS IMPACTS

A. SIGHT LINE ADEQUACY AT PROJECT EXIT DRIVEWAY

Sight lines would be acceptable for drivers turning to Sage Canyon Road from the west project driveway, which would be designated exclusively for exiting movements. Sight lines to the west would be about 350 feet, while sight lines to the east would be about 400 feet. Based upon observed travel speeds along Sage Canyon Road of 40 miles per hour (the posted speed), the required stopping sight distances would be 300 feet for east and westbound drivers.⁴ Therefore, sight lines would be greater than the minimum required stopping sight distances. It should be noted, however, that landscaping should be maintained and/or not planted along the project frontage that would interfere with the acceptable sight lines.

B. PROJECT ENTRANCE LEFT TURN LANE REQUIREMENT

Both Caltrans and County warrant criteria have been evaluated to determine the need for a left turn lane on the westbound Sage Canyon Road approach to the project's east (inbound flow) driveway. Caltrans warrant criteria in **Table 17** shows that even with 2030 traffic, peak hour volumes would be well below warrant criteria levels. County warrant criteria in **Table 18** shows that average two-way daily traffic volumes along Sage Canyon Road in combination with projected weekday two-way daily volumes on the project inbound driveway will not meet County warrant criteria for provision of a left turn lane on the westbound Sage Canyon Road intersection approach even with 2030 volumes. It should also be noted that while County criteria only take into consideration daily traffic volumes on the main road and project driveway and not the pattern of turn movements at the project access intersection, at least 75 percent of the turns into the east project driveway would be expected to be right turns.

XII. MARKETING EVENTS

Table 19 presents details of the number of guests, employees and hired event staffing that would likely be present for the two proposed marketing events which would have up to 40 guests (resulting in about 15 vehicle trips to and from the winery). Total hired staffing for the events would result in an additional 4 vehicles accessing the winery. Events would last about three hours and would occur on weekends at times other than peak traffic periods along Silverado Trail.

There will be no regular visitation allowed during either of the two marketing events.

⁴ Caltrans *Highway Design Manual*, March 2014.

XIII. MITIGATION MEASURES

- No off-site or access mitigation measures are required since there are no significant off-site or access-related project impacts.
- Vegetation along the project's Sage Canyon Road frontage that may block sight lines for drivers turning from the project exit driveway should not be planted or should be maintained at heights which will not interfere with sight lines.
- Both marketing events should either end by 2:00 PM or begin after 6:00 PM in order to avoid having guests and hired staffing traveling on the local roadway network during peak traffic hours.

XIV. CONCLUSIONS & RECOMMENDATIONS

The project would result in no significant off-site circulation system operational impacts to Silverado Trail and Sage Canyon Road or to the Silverado Trail/Sage Canyon Road intersection. Project traffic in combination with ambient traffic volumes along Sage Canyon Road will not meet Caltrans or County warrant criteria for provision of a left turn lane on the westbound Sage Canyon Road approach to the project entrance driveway. In addition, the vast majority of project employee and visitor traffic accessing the site will be coming from Silverado Trail and making a right turn to the inbound (east) driveway. Sight lines at the proposed project outbound driveway connection to Sage Canyon Road will be adequate assuming landscaping along the project frontage is maintained so as not to block existing sight lines. Also, both marketing events should be scheduled to avoid contributing traffic to the local roadway network between 2:00 and 6:00 PM.

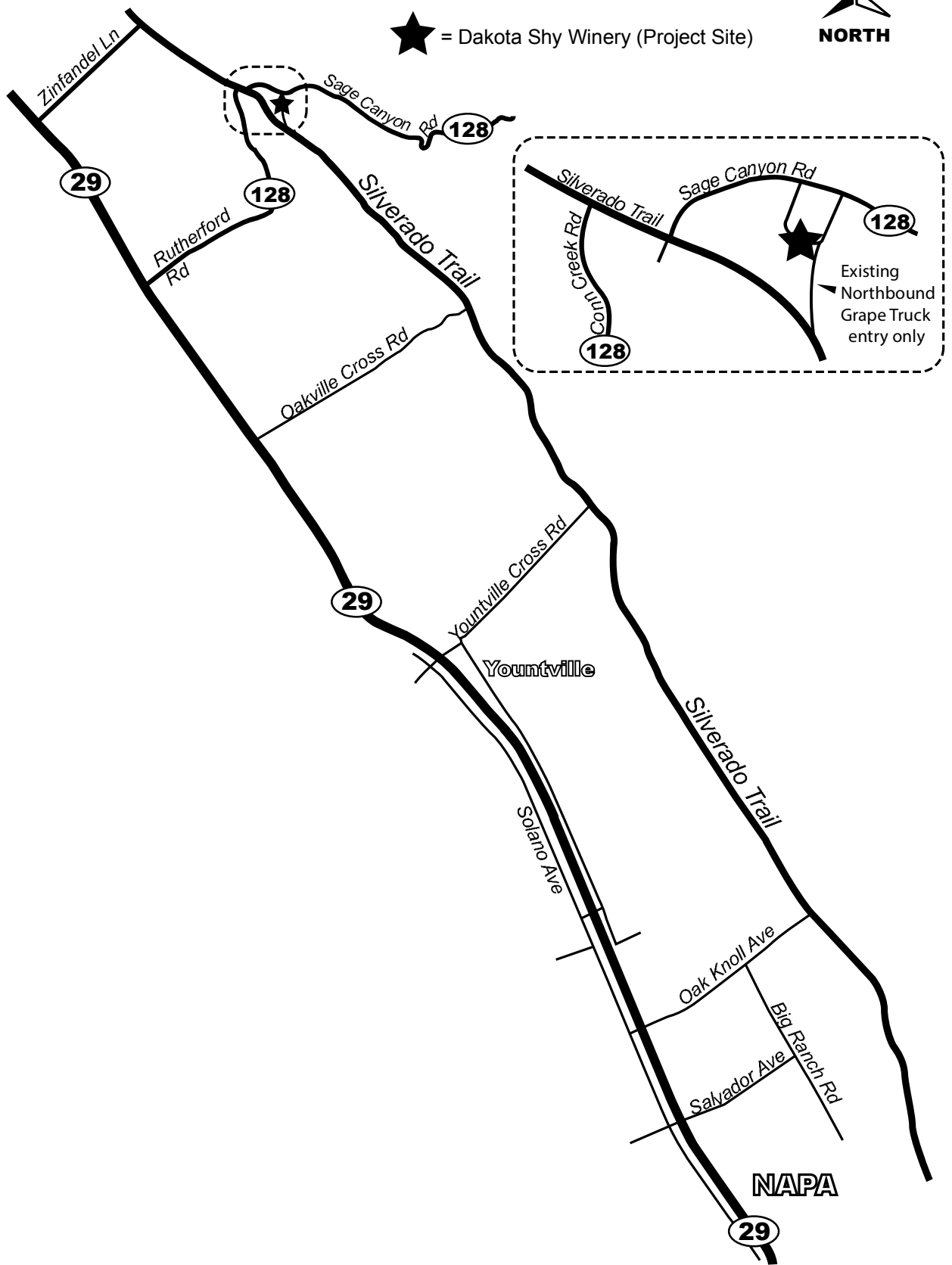
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Figures

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Helena

Not To Scale

★ = Dakota Shy Winery (Project Site)

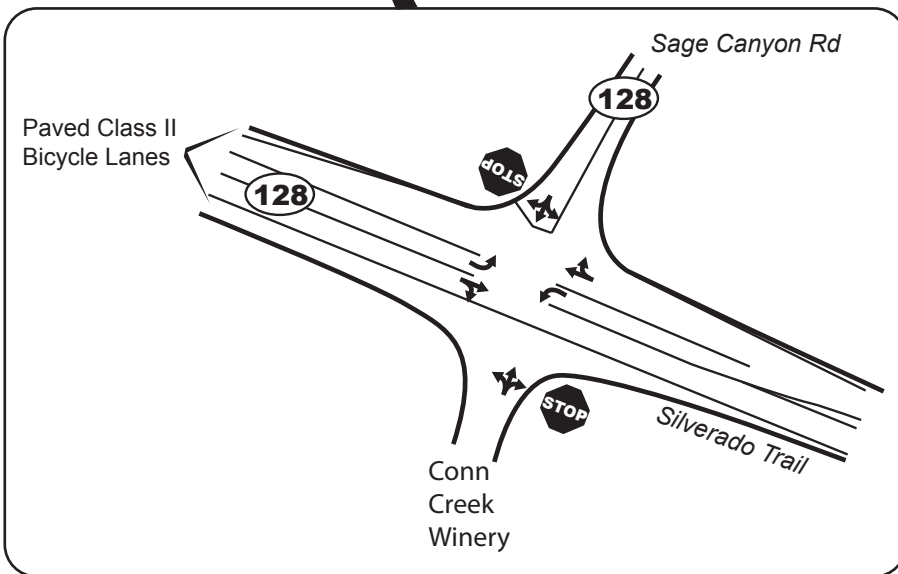
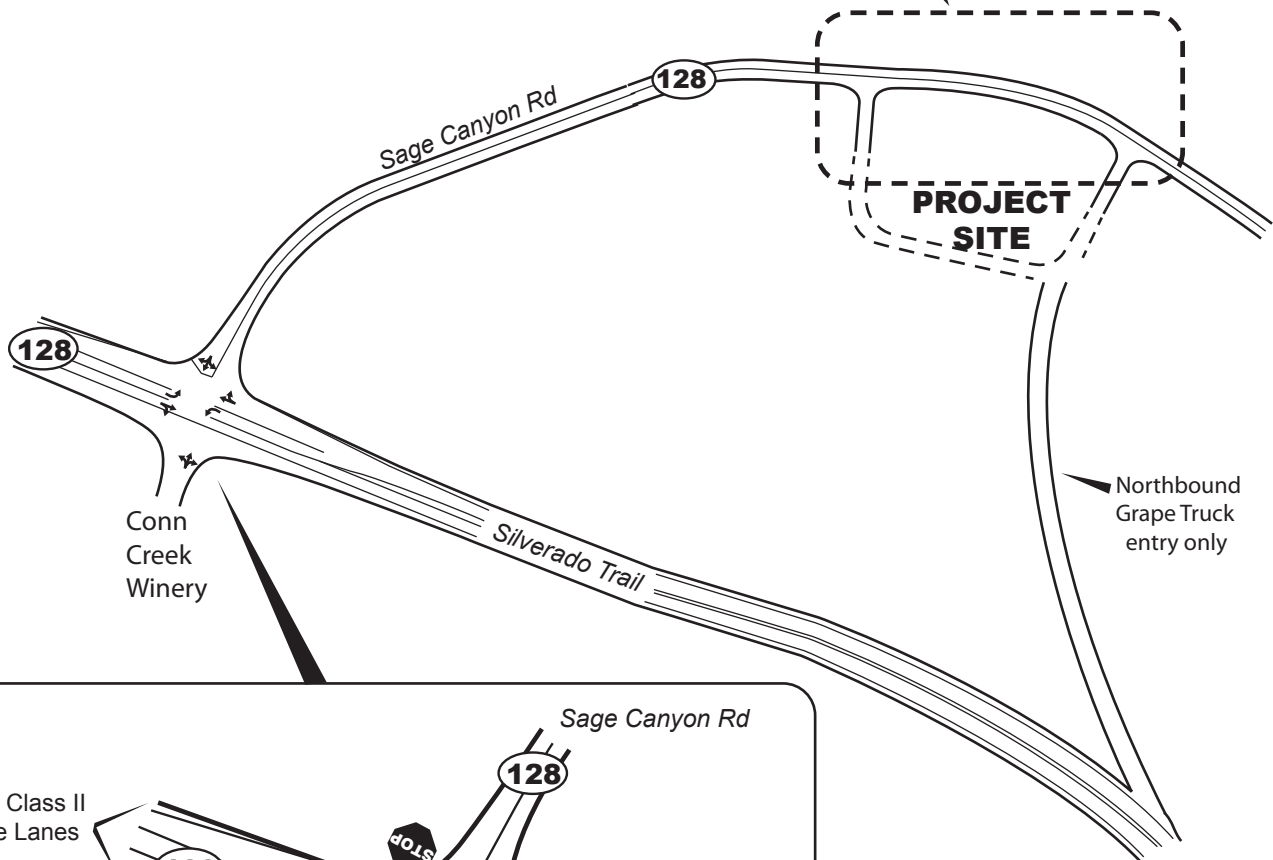
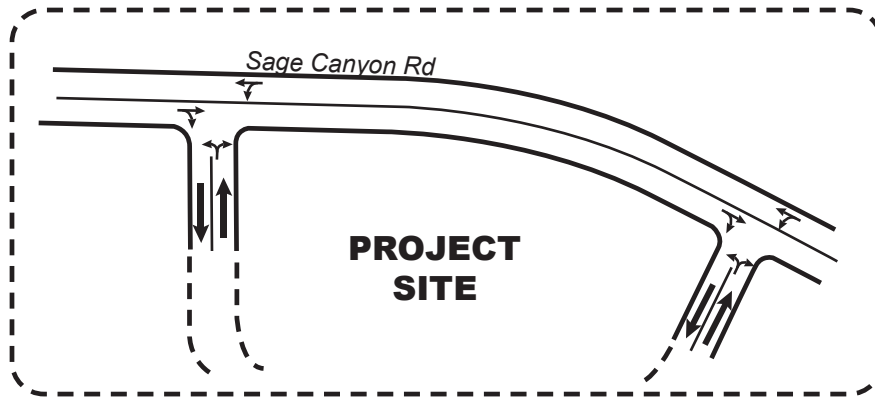


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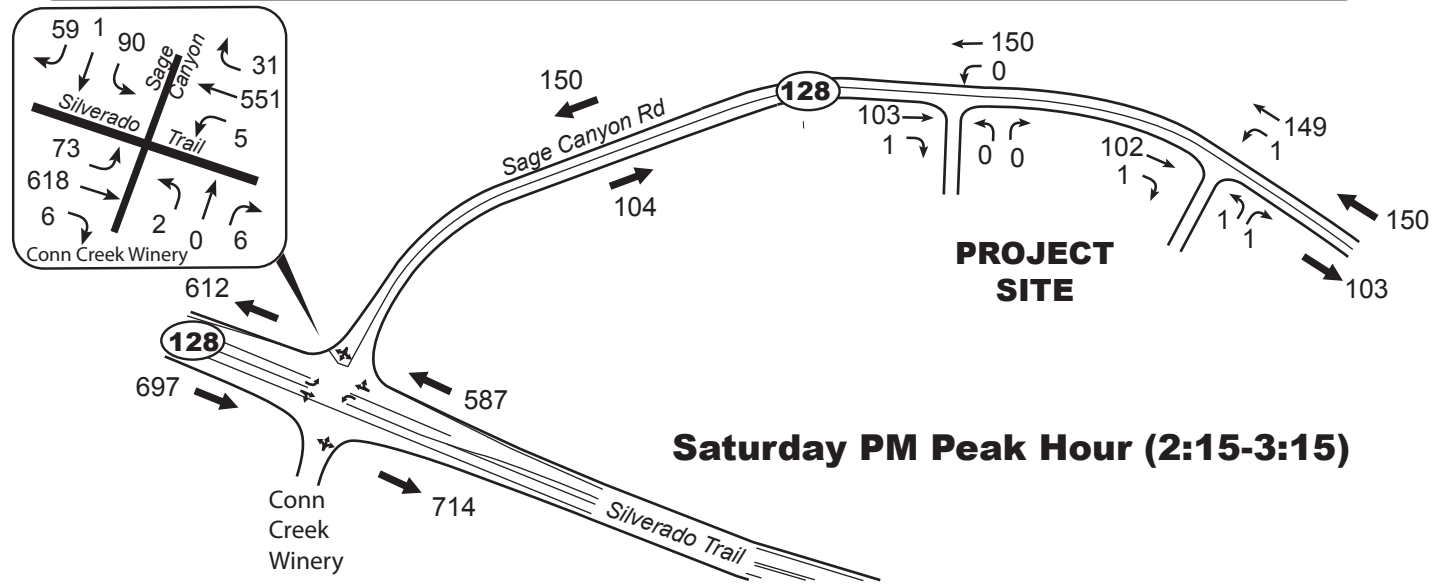
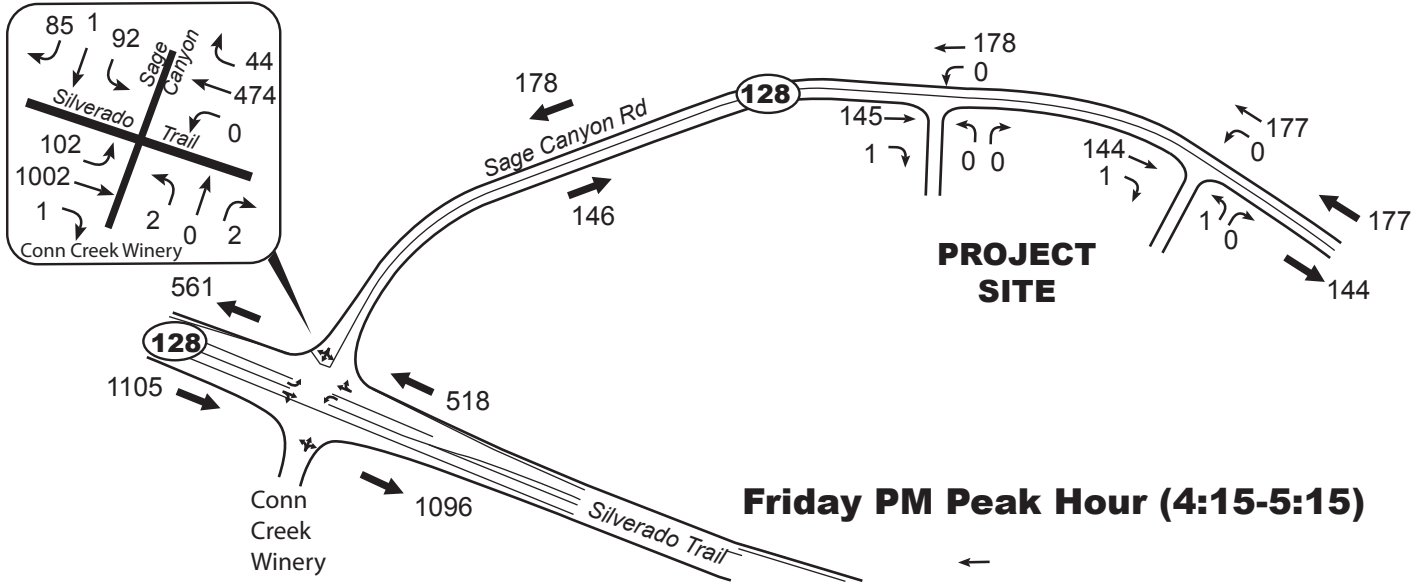
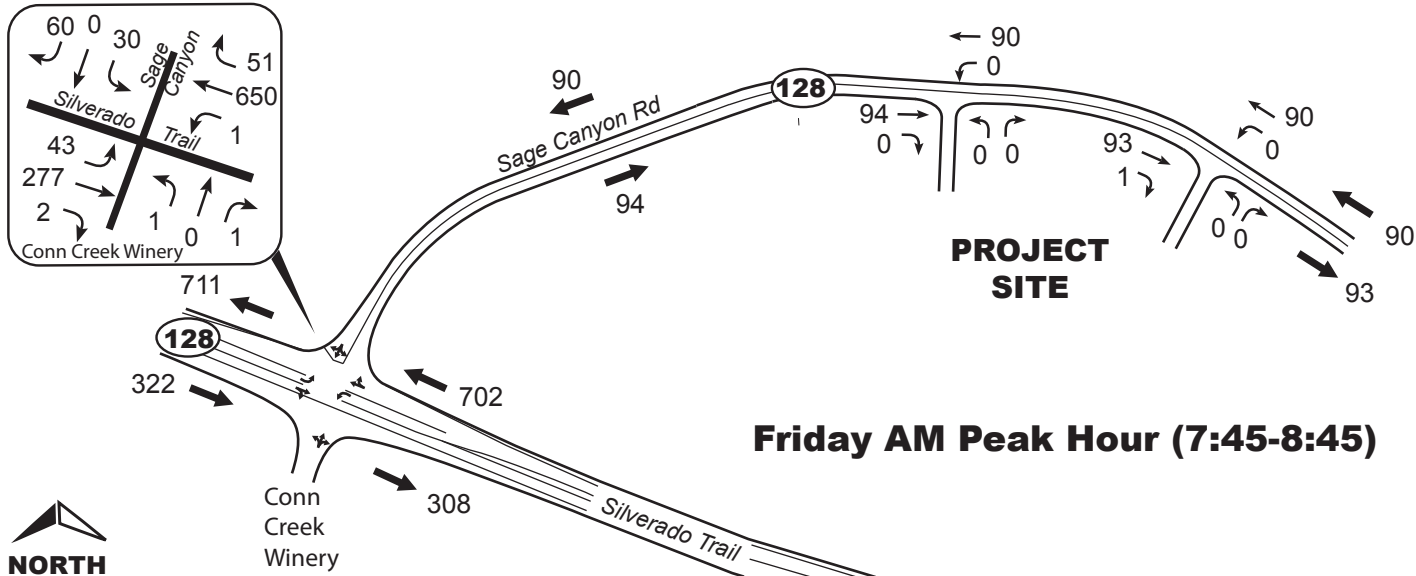
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Figure 1
Area Map
Dakota Shy Winery



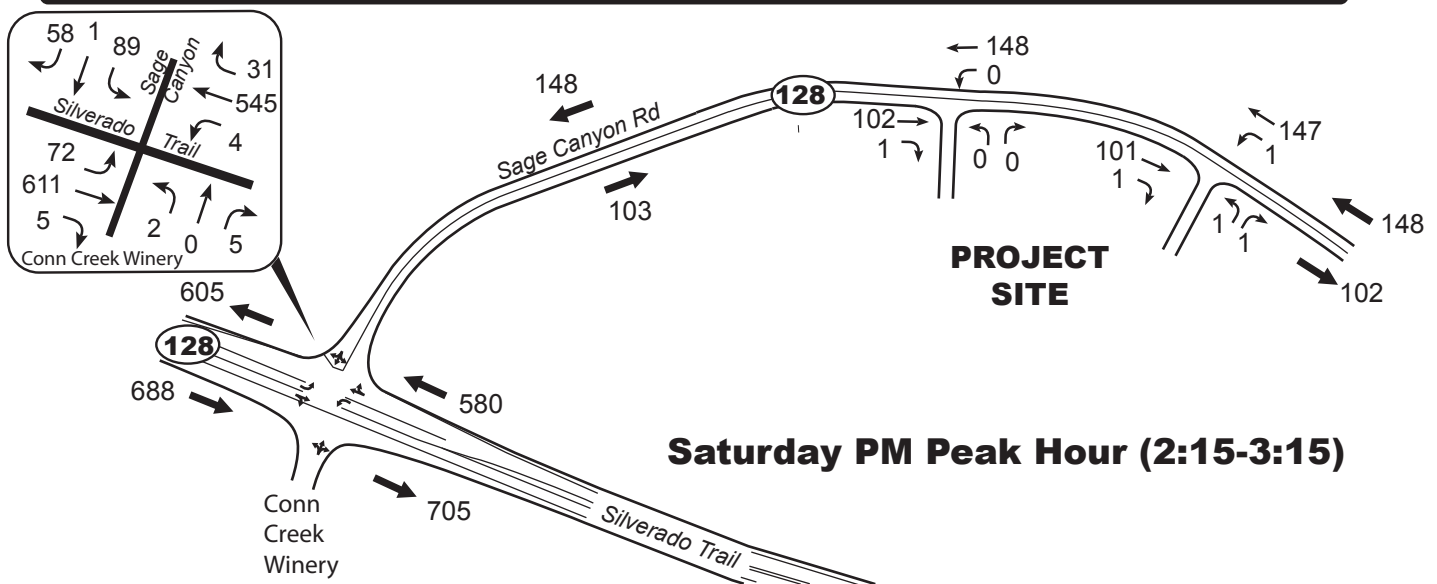
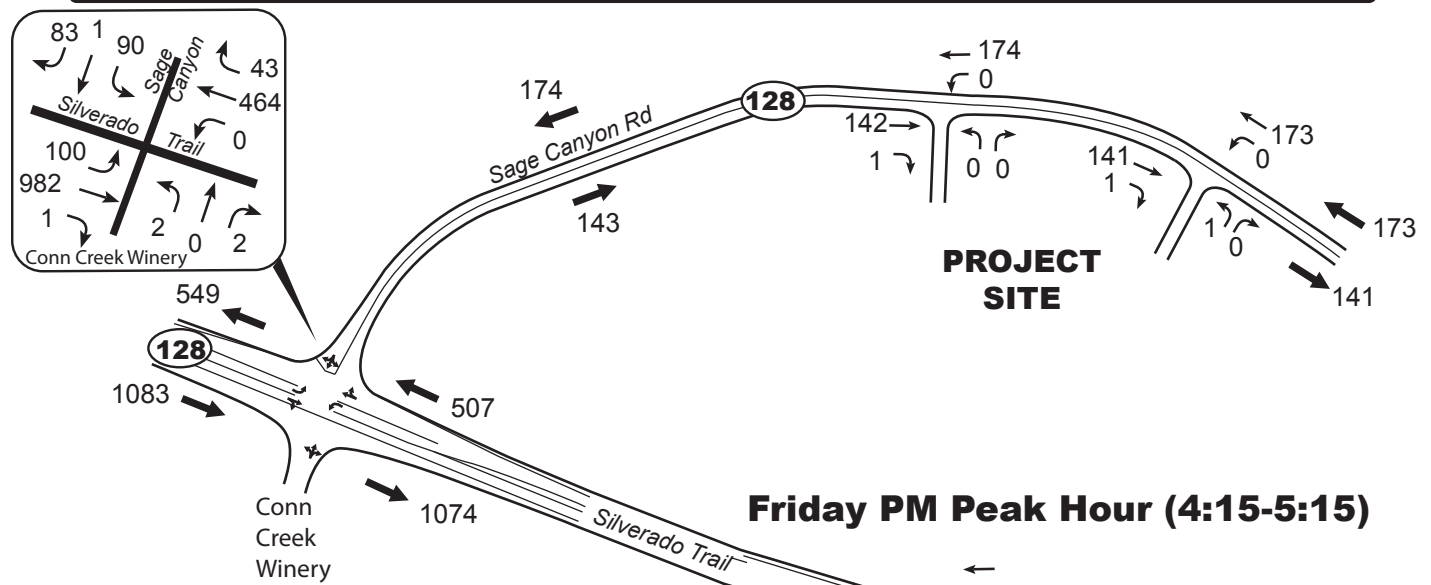
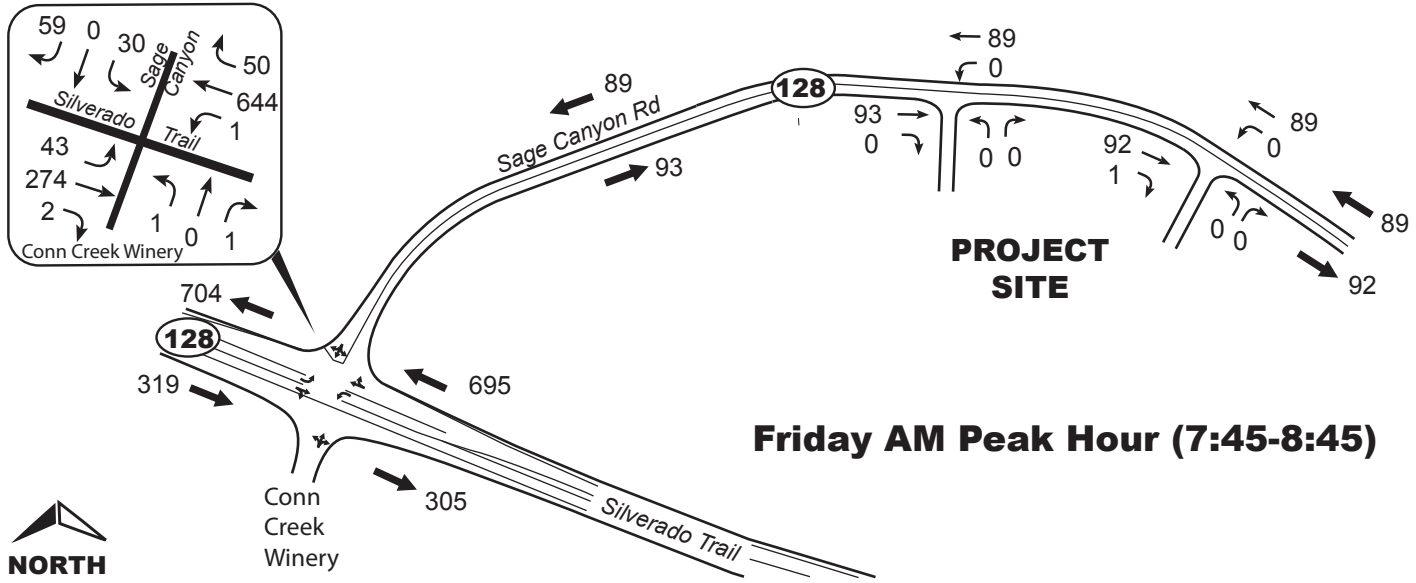
Dakota Shy Winery Traffic Study

Figure 2
Existing Lane Geometrics
and Intersection Control



Dakota Shy Winery Traffic Study

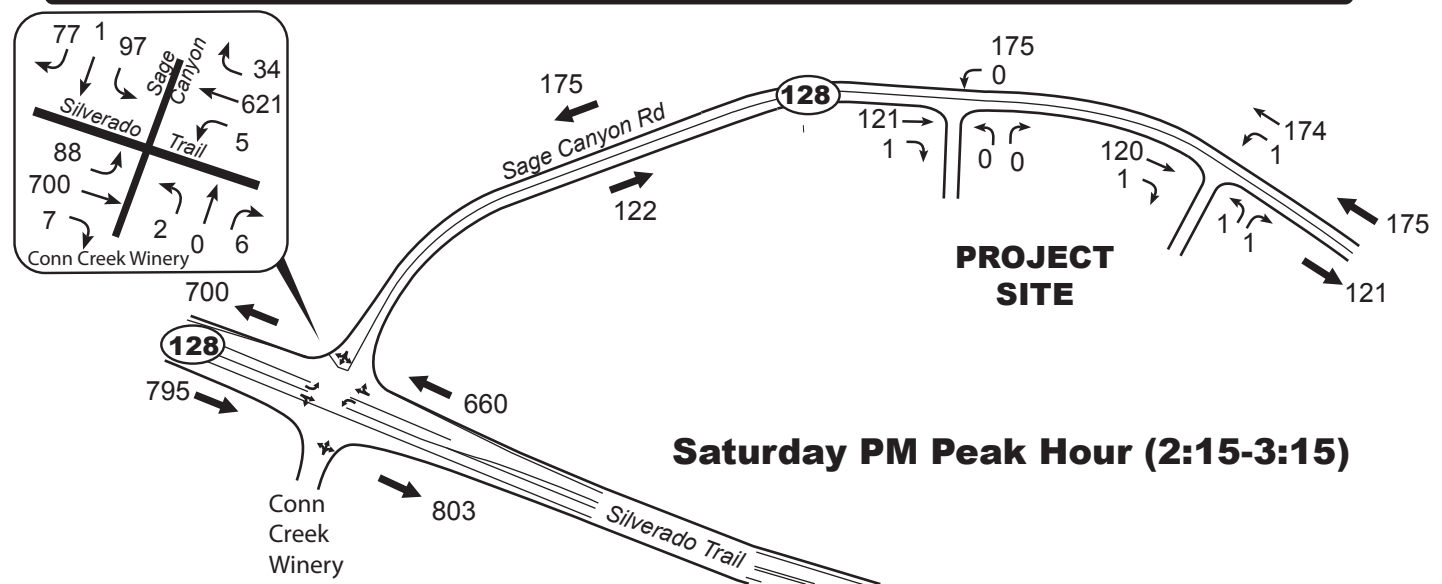
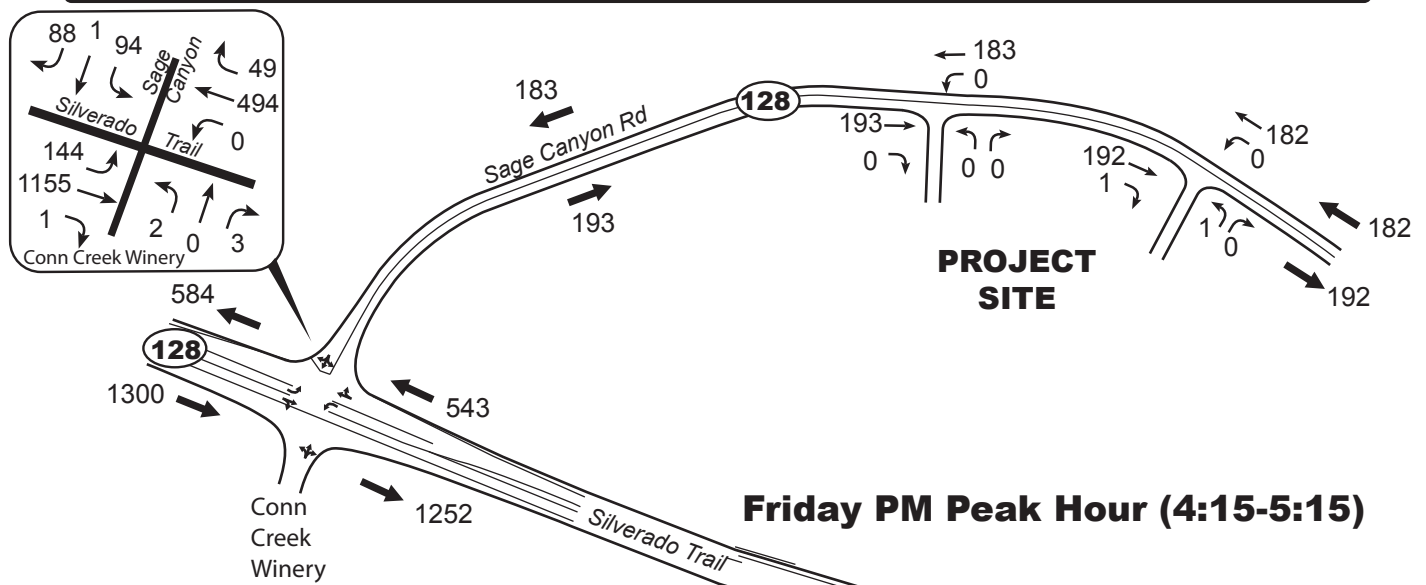
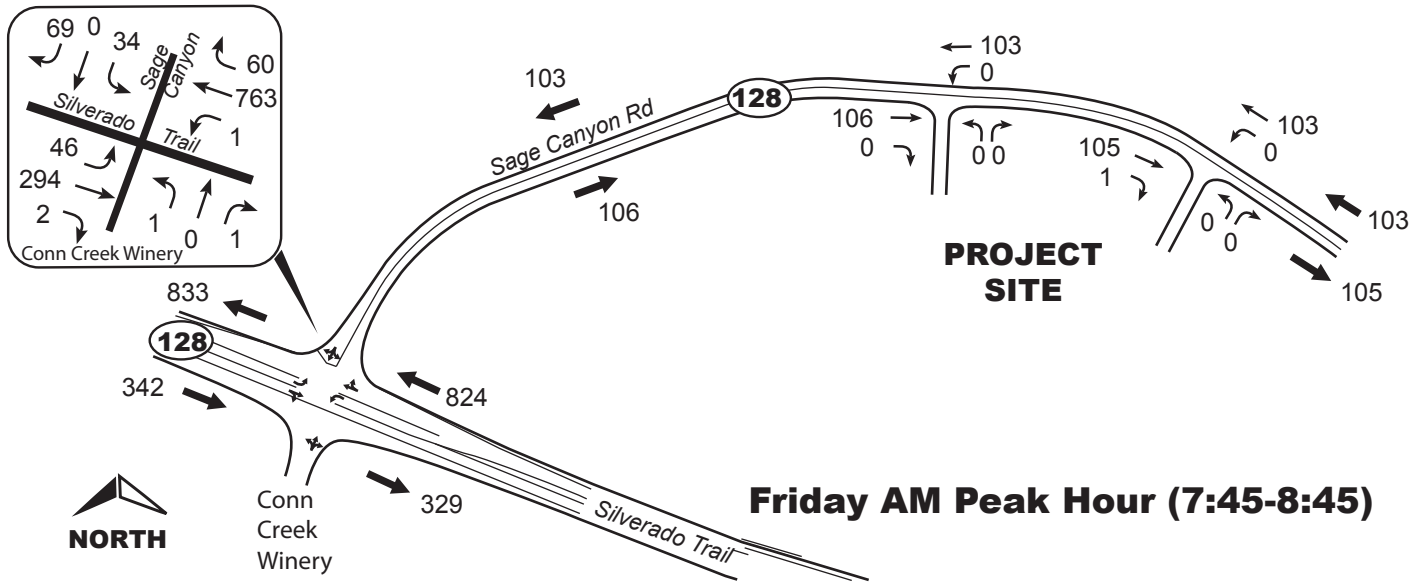
Figure 3
2014 Harvest (without Project)
Friday AM & PM and Saturday
PM Peak Hour Volumes



Dakota Shy Winery Traffic Study

Figure 4

**2014 Summer Non-Harvest (without Project)
Friday AM & PM and Saturday
PM Peak Hour Volumes**

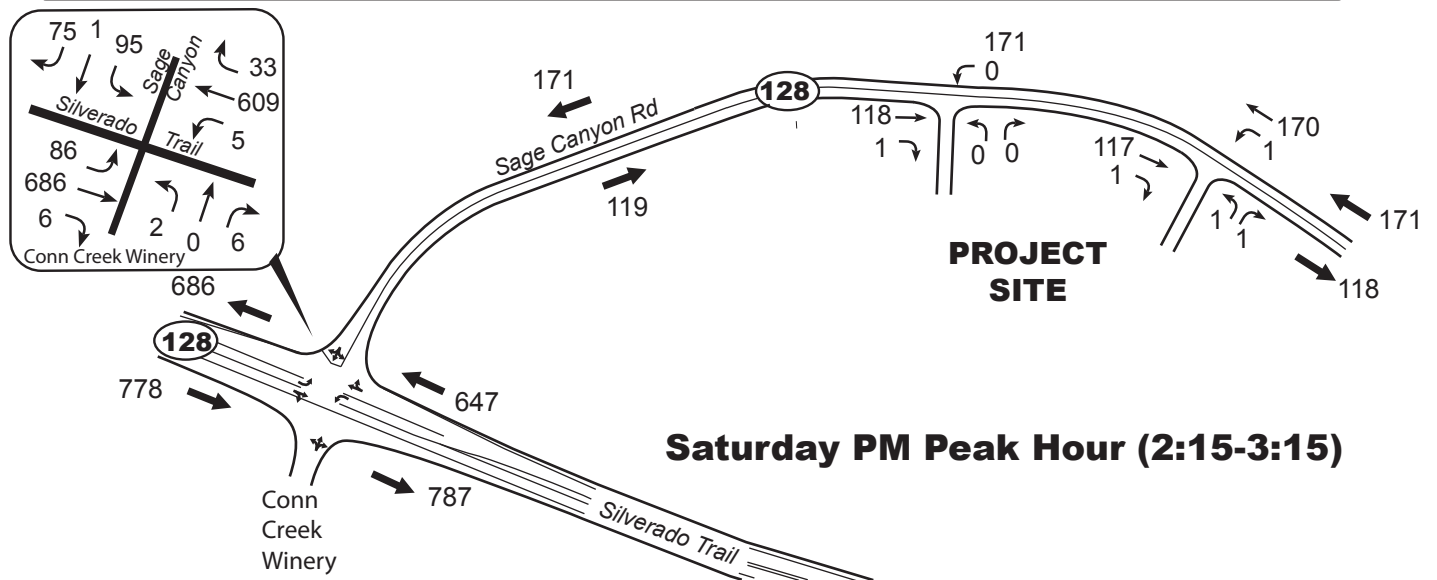
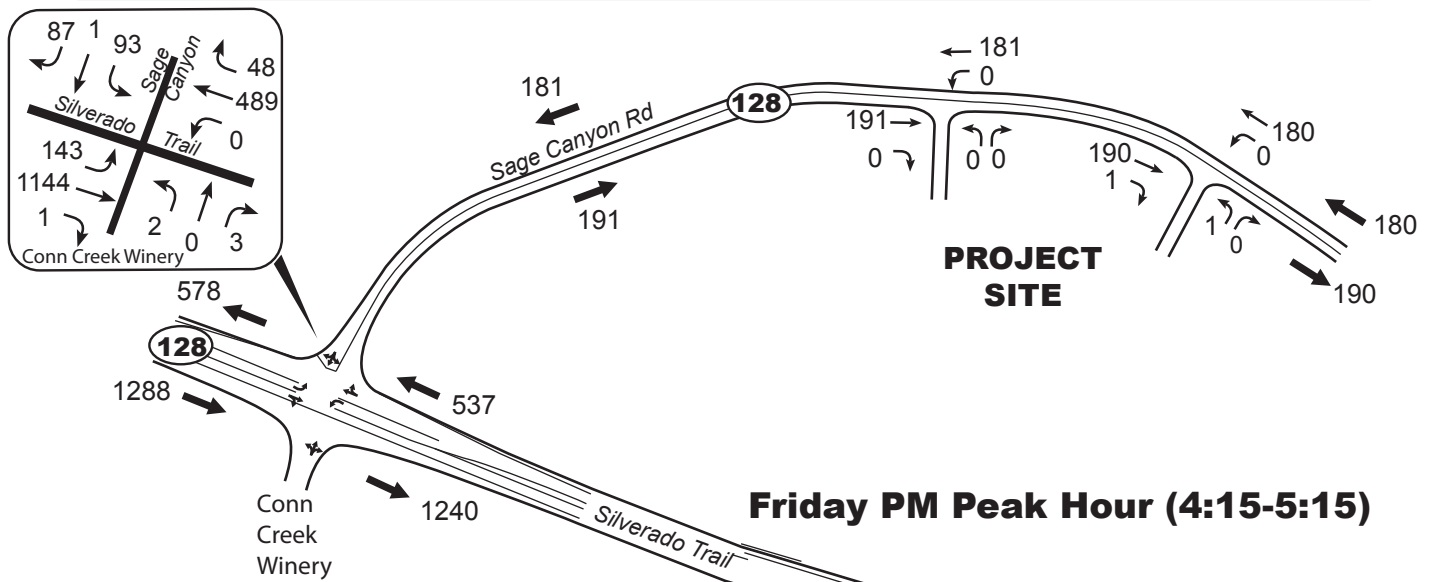
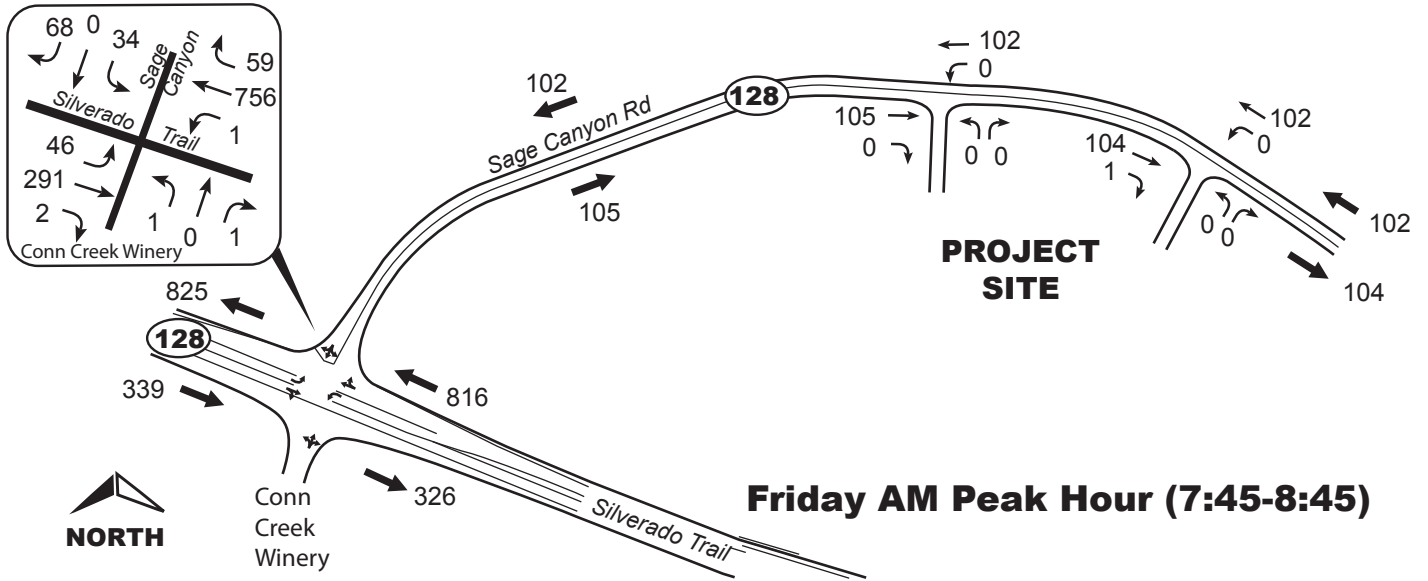


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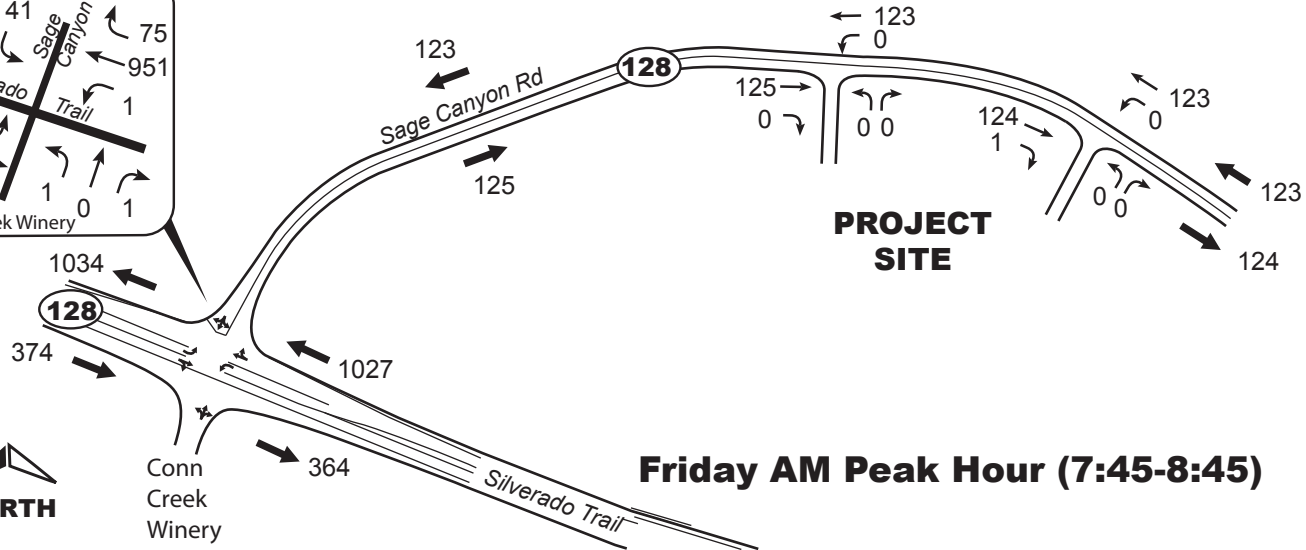
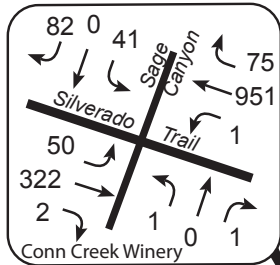
Figure 5
Harvest 2020 (without Project)
Friday AM & PM and Saturday
PM Peak Hour Volumes



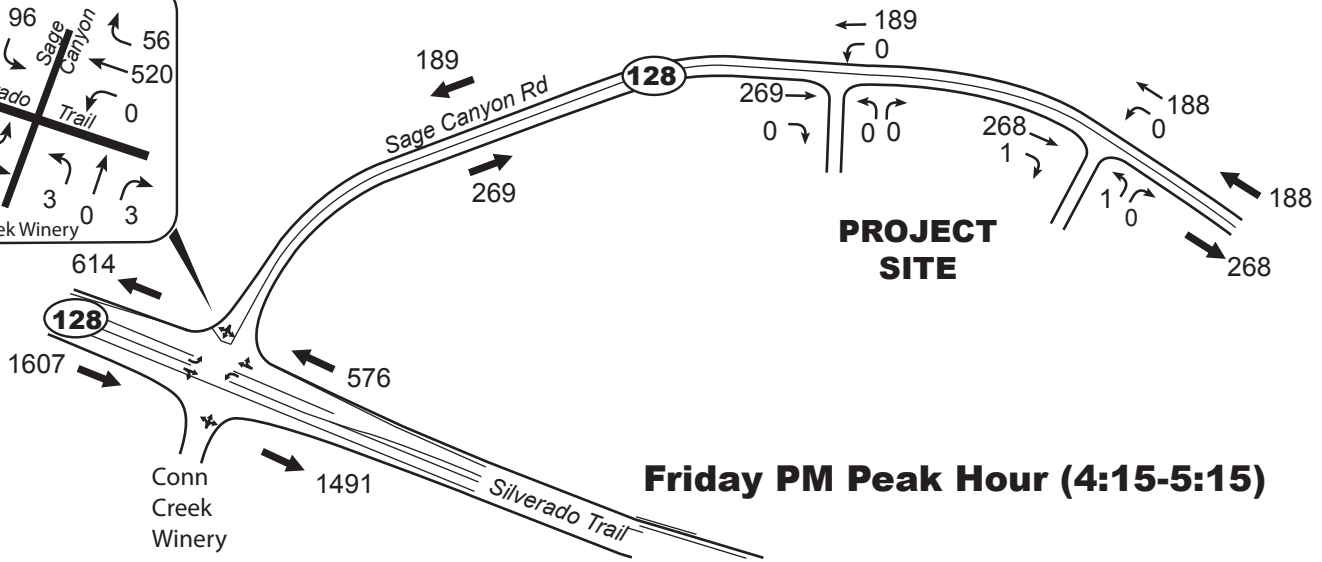
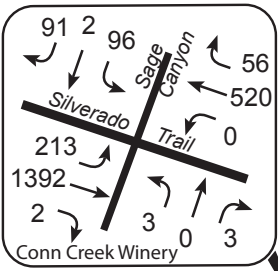
Dakota Shy Winery Traffic Study

Figure 6

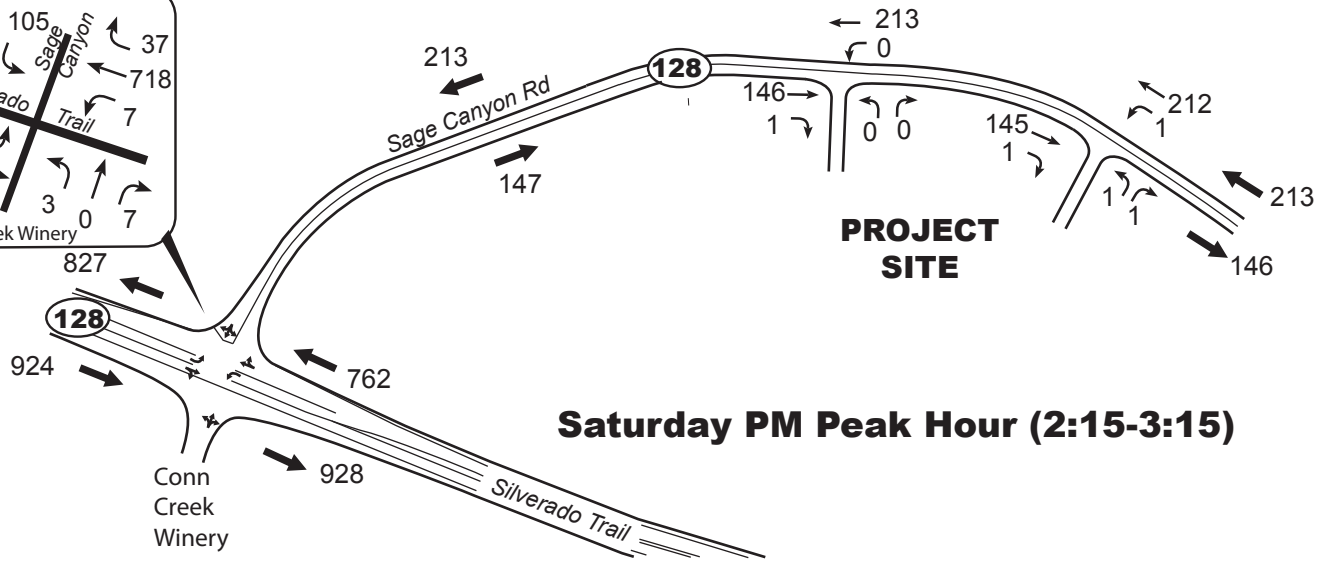
**Summer Non-Harvest 2020 (without Project)
Friday AM & PM and Saturday
PM Peak Hour Volumes**



Friday AM Peak Hour (7:45-8:45)



Friday PM Peak Hour (4:15-5:15)



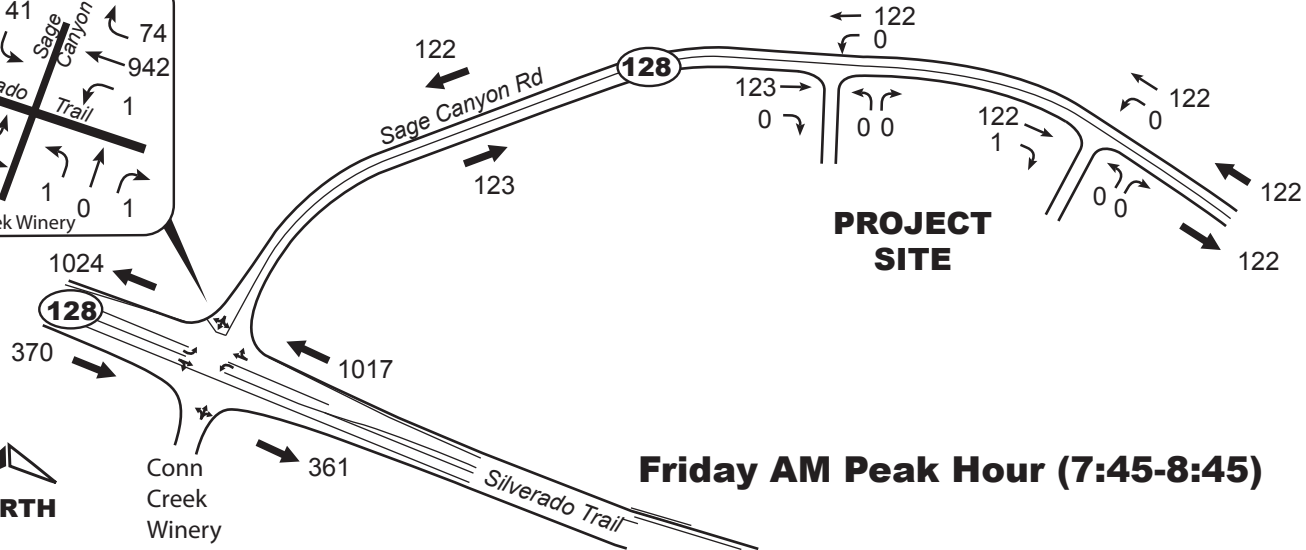
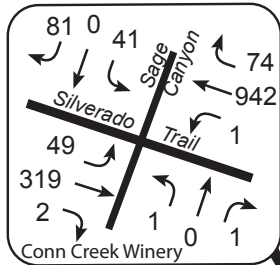
Saturday PM Peak Hour (2:15-3:15)

Dakota Shy Winery Traffic Study

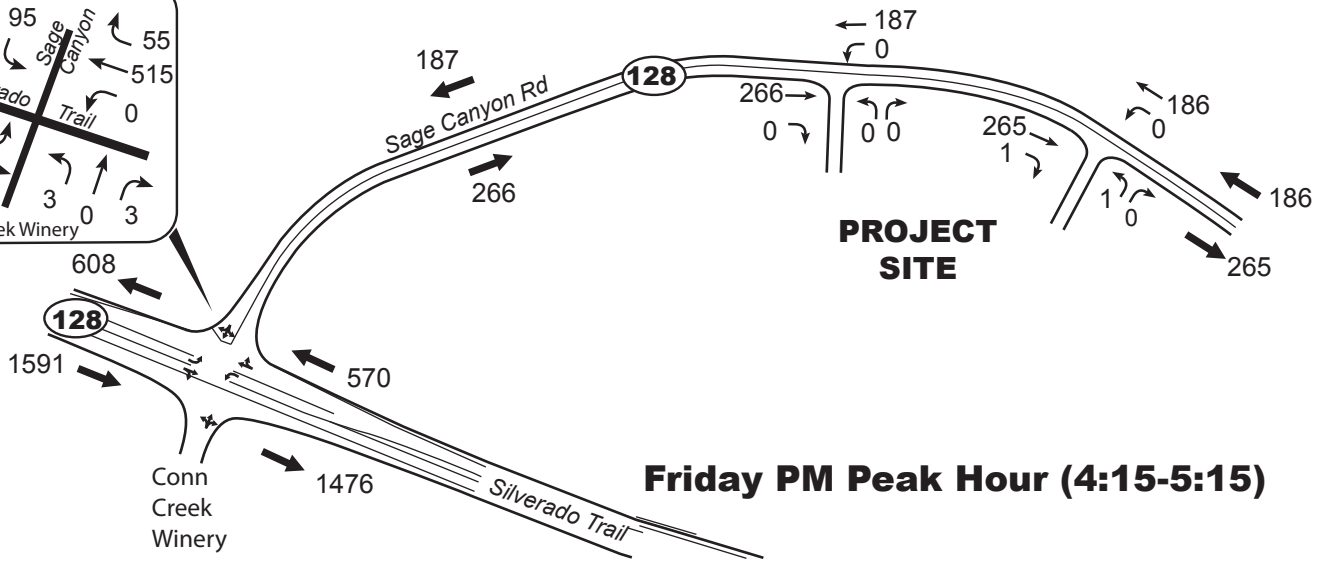
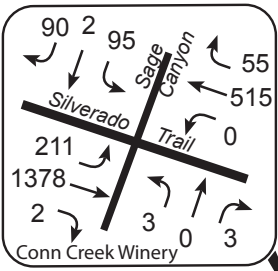


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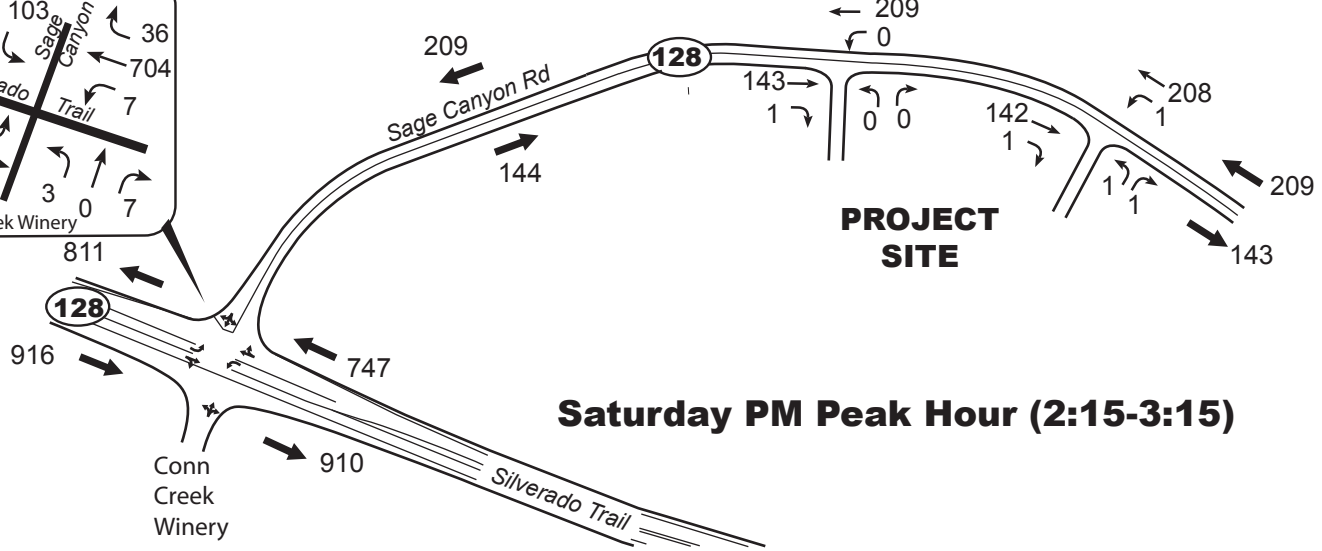
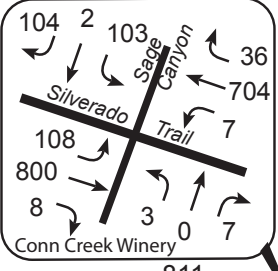
Figure 7
Harvest 2030 (without Project)
Friday AM & PM and Saturday
PM Peak Hour Volumes



Friday AM Peak Hour (7:45-8:45)



Friday PM Peak Hour (4:15-5:15)



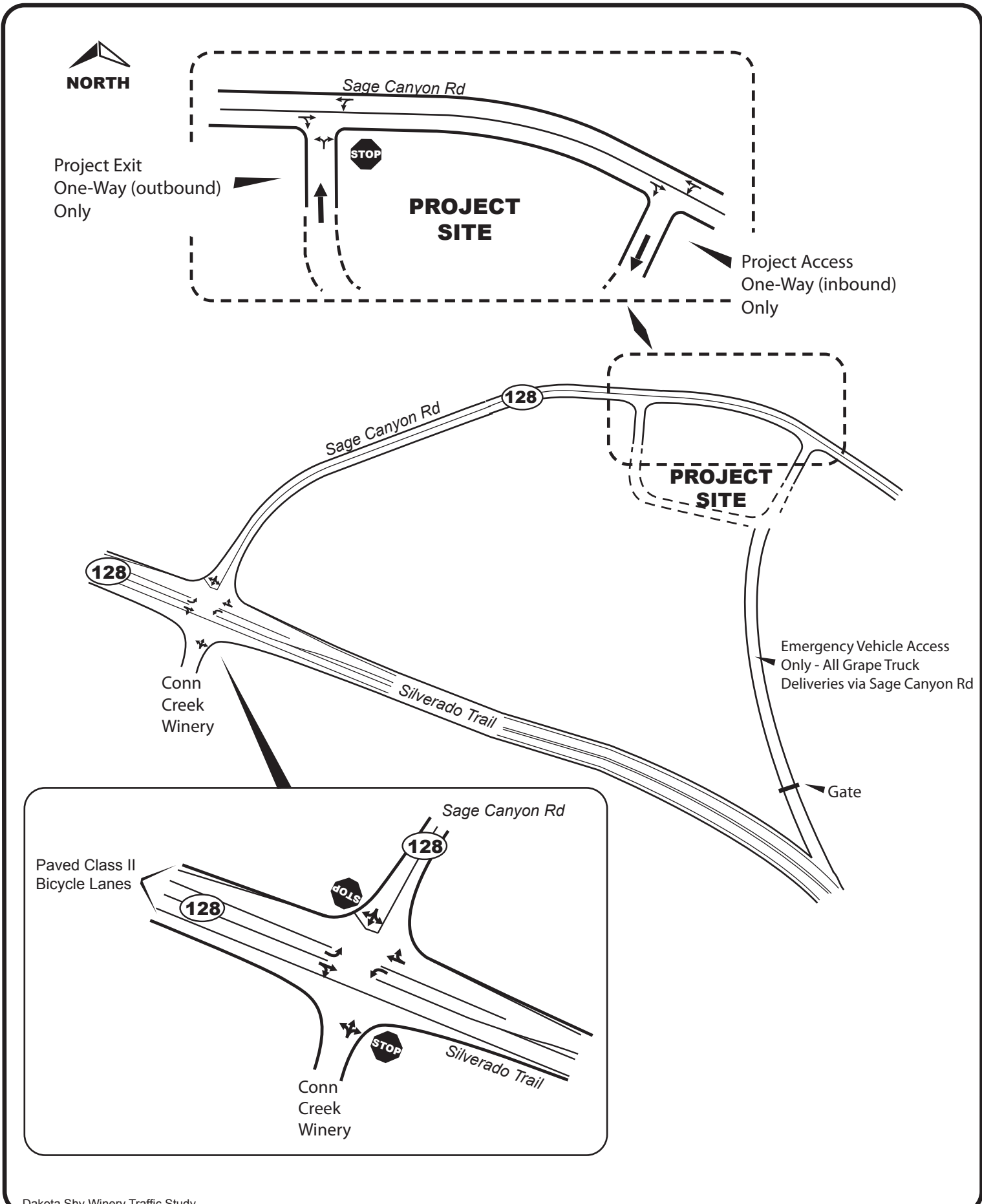
Saturday PM Peak Hour (2:15-3:15)

Dakota Shy Winery Traffic Study

Figure 8

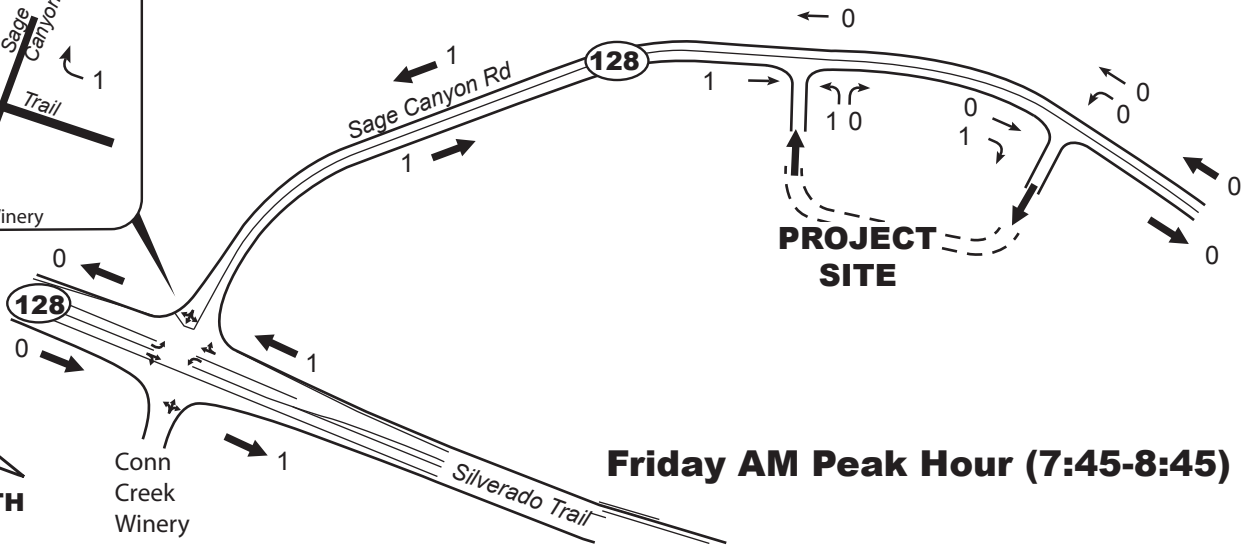
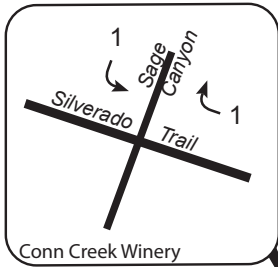
**Summer Non-Harvest 2030 (without Project)
Friday AM & PM and Saturday
PM Peak Hour Volumes**



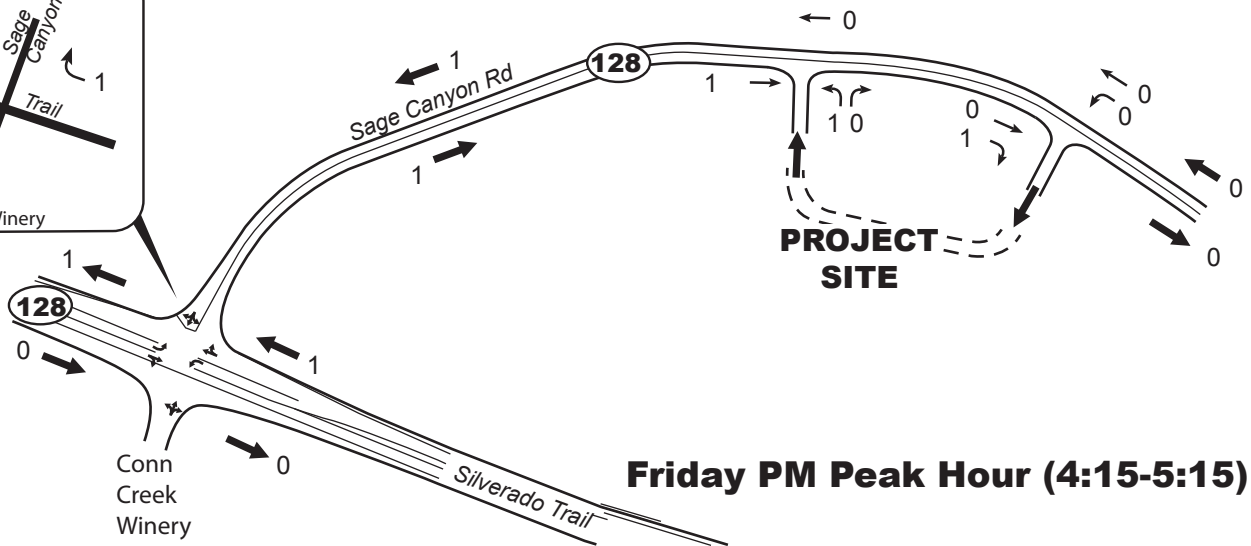
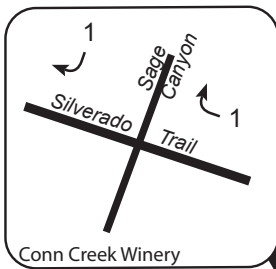


Dakota Shy Winery Traffic Study

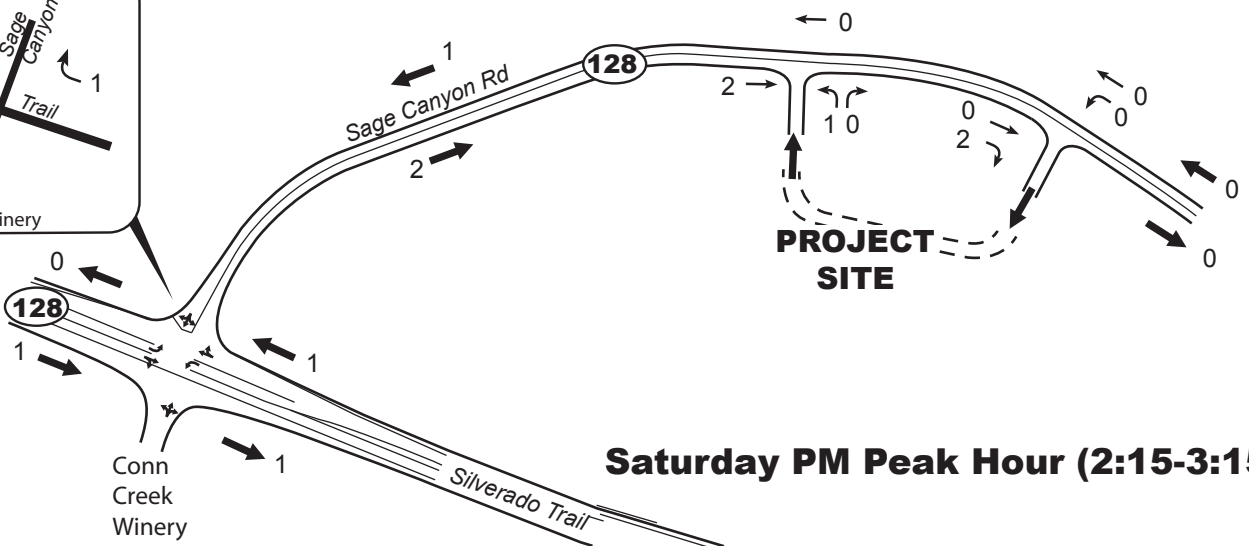
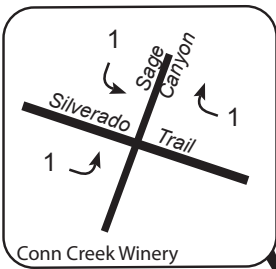
Figure 9
Revised Site Access
with Project



Friday AM Peak Hour (7:45-8:45)



Friday PM Peak Hour (4:15-5:15)



Saturday PM Peak Hour (2:15-3:15)

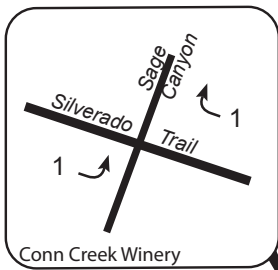
Dakota Shy Winery Traffic Study

Figure 10

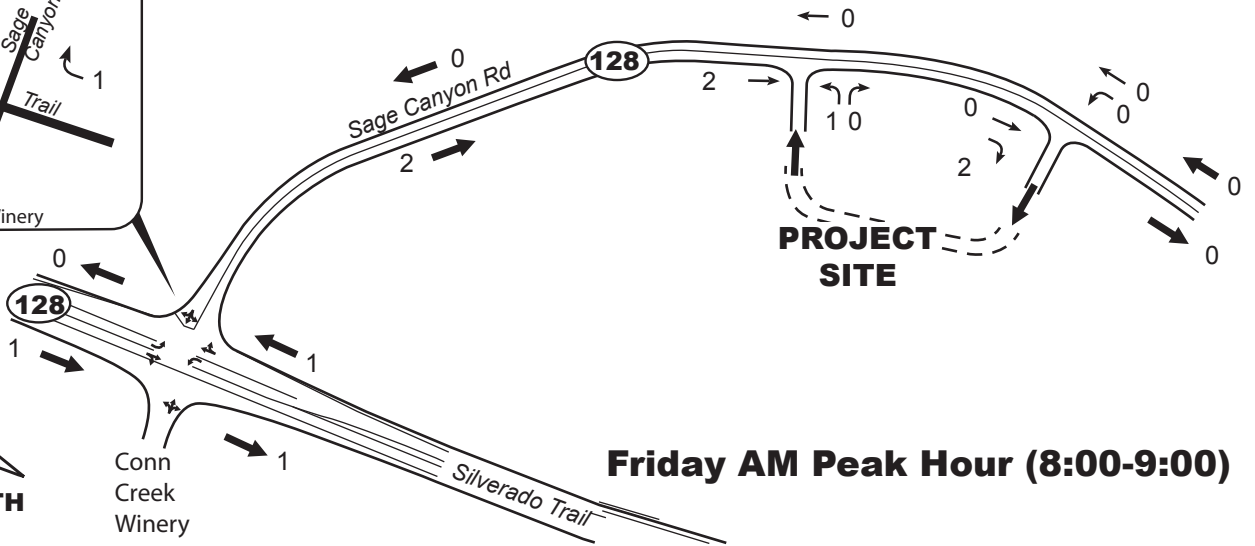
**Harvest Project Increment
Friday AM & PM and Saturday
PM Peak Hour Volumes**



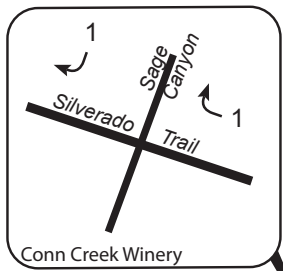
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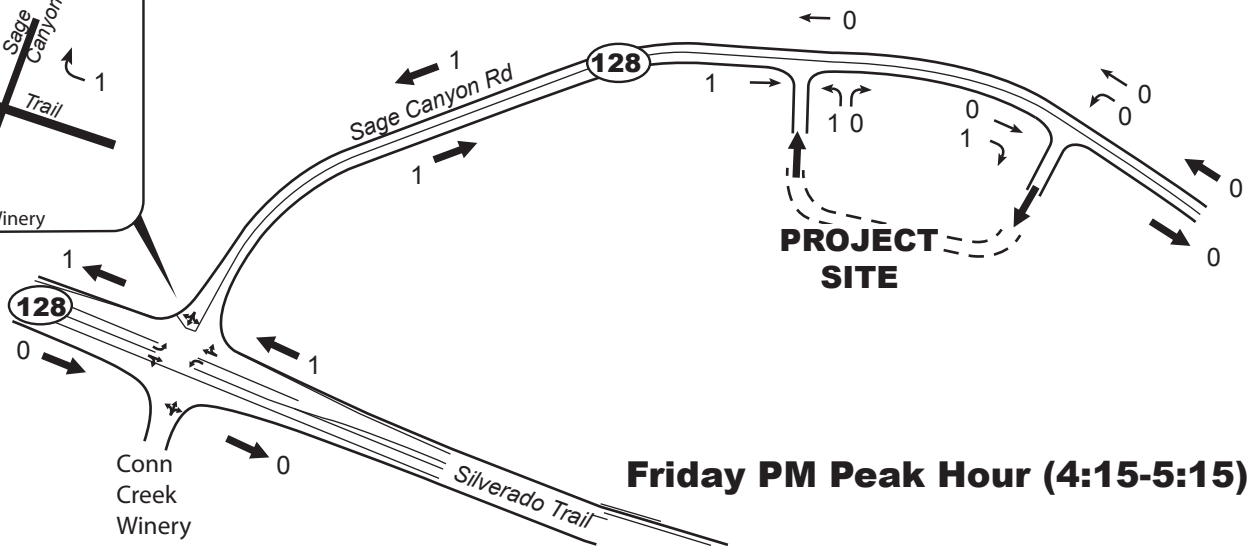
Conn Creek Winery



Friday AM Peak Hour (8:00-9:00)



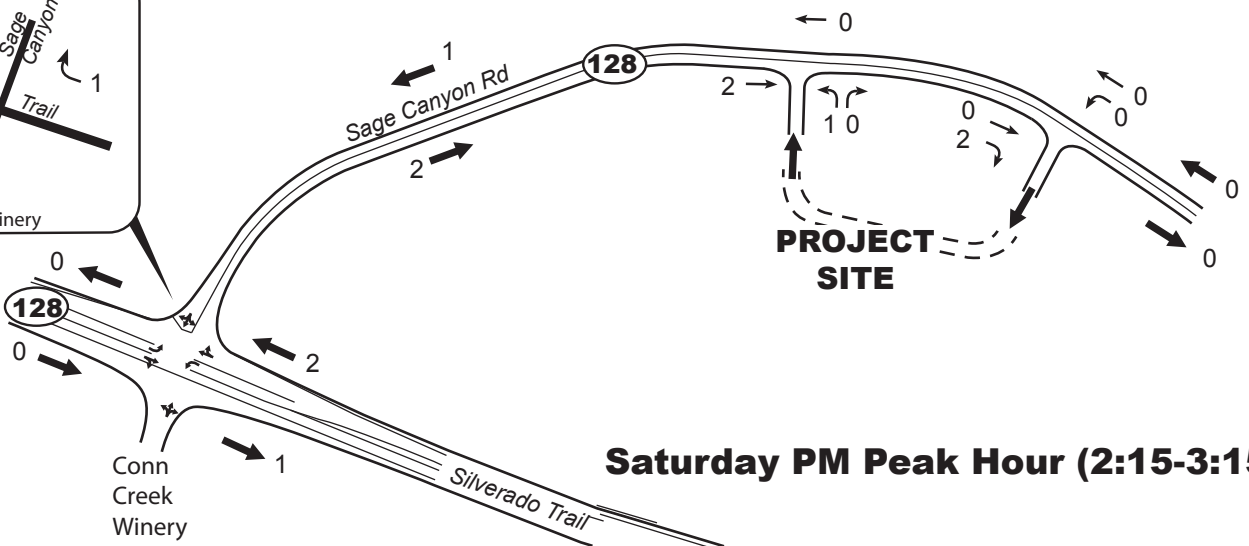
Conn Creek Winery



Friday PM Peak Hour (4:15-5:15)



Conn Creek Winery



Saturday PM Peak Hour (2:15-3:15)

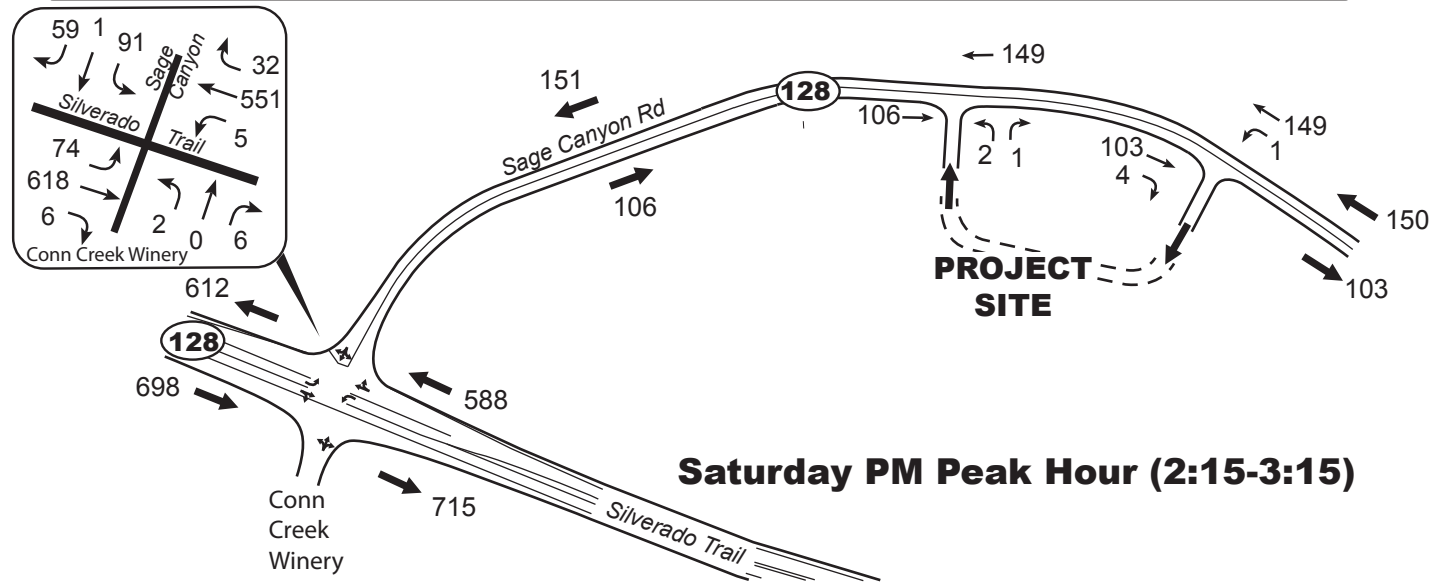
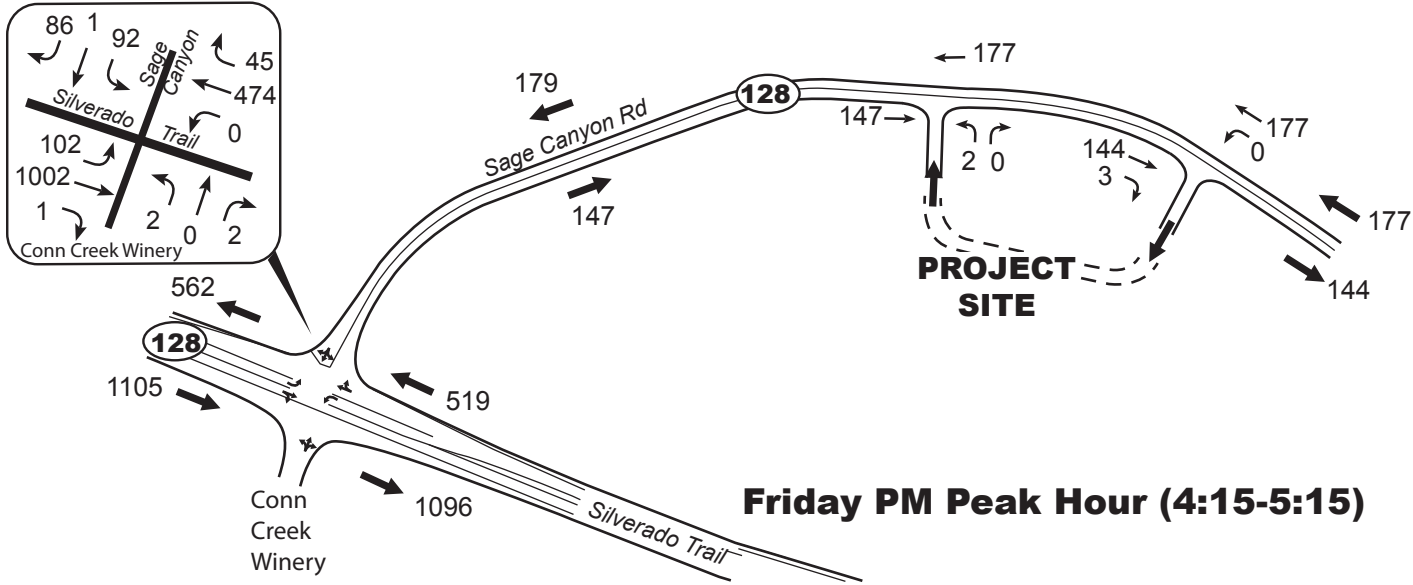
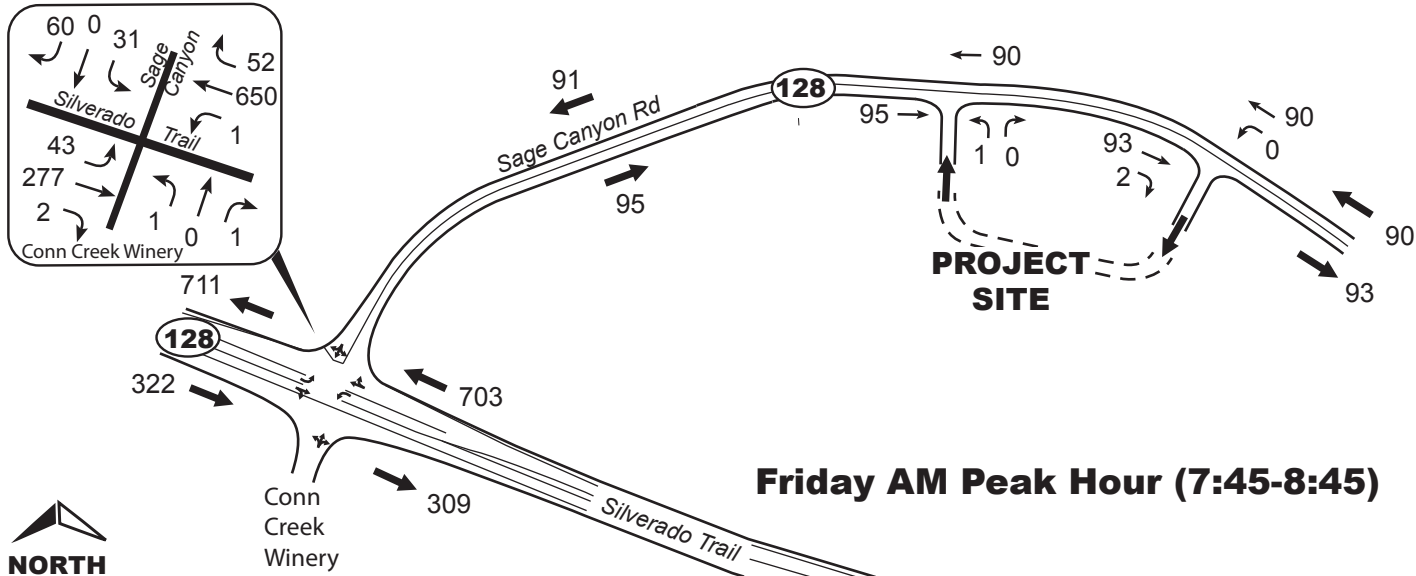
Dakota Shy Winery Traffic Study

Figure 11

**Summer Project Increment
Friday AM & PM and Saturday
PM Peak Hour Volumes**



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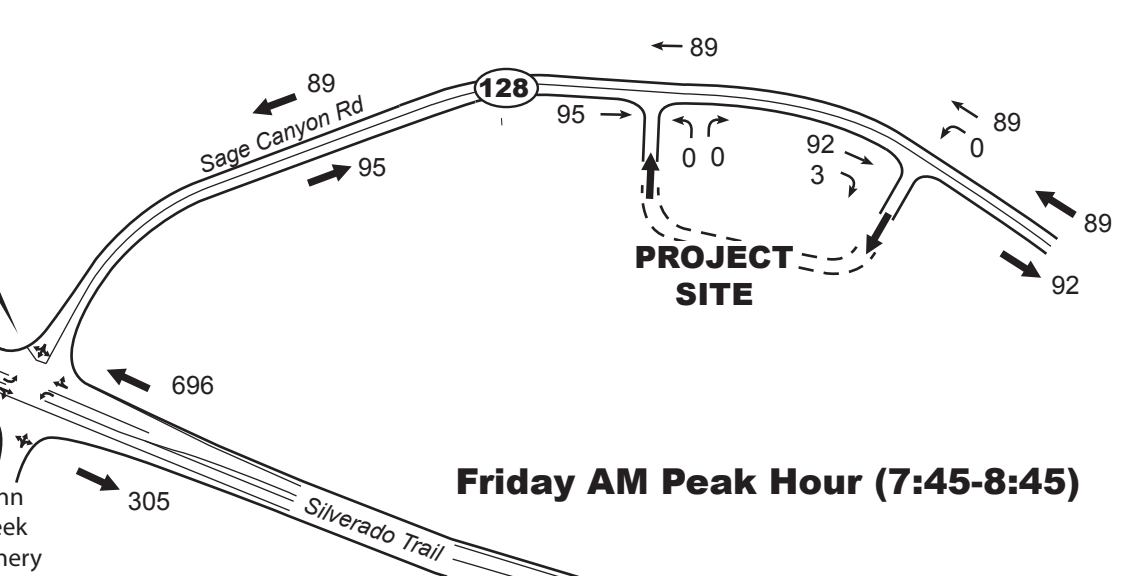
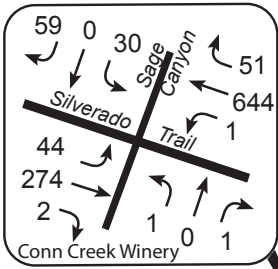
Dakota Shy Winery Traffic Study

Figure 12

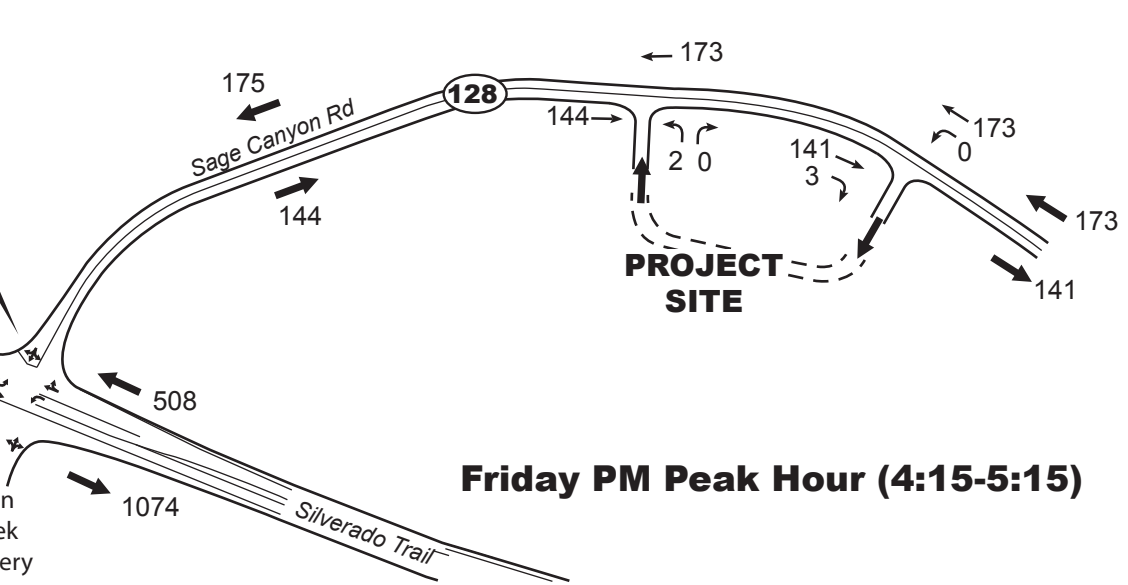
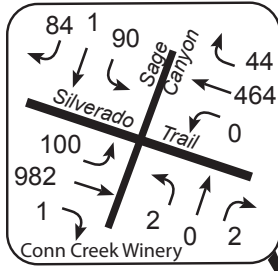
**2014 Harvest (with Project)
Friday AM & PM and Saturday
PM Peak Hour Volumes**



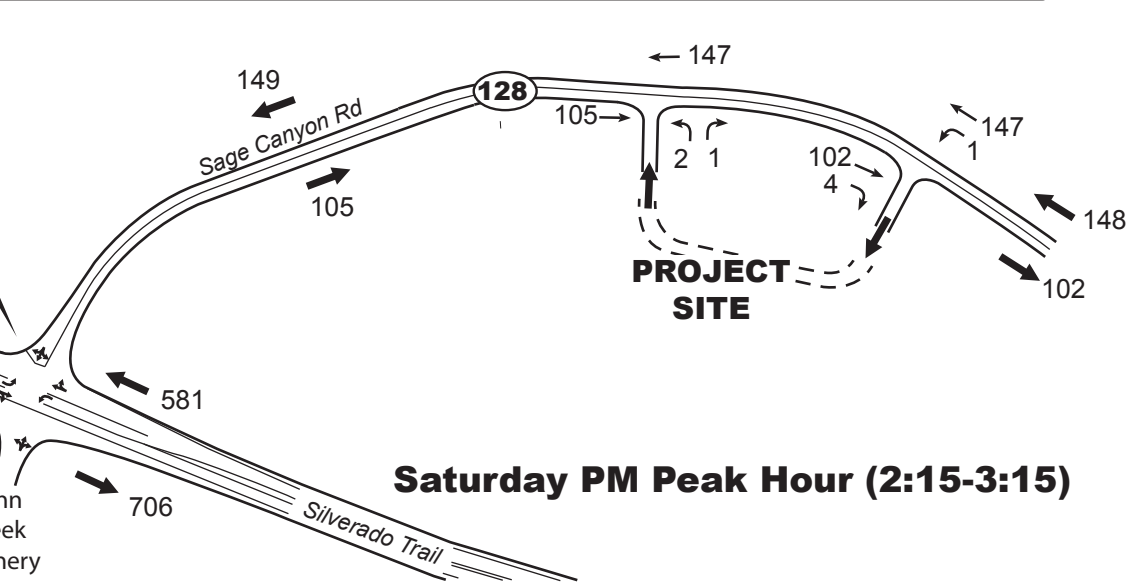
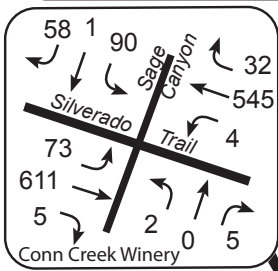
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Friday AM Peak Hour (7:45-8:45)



Friday PM Peak Hour (4:15-5:15)

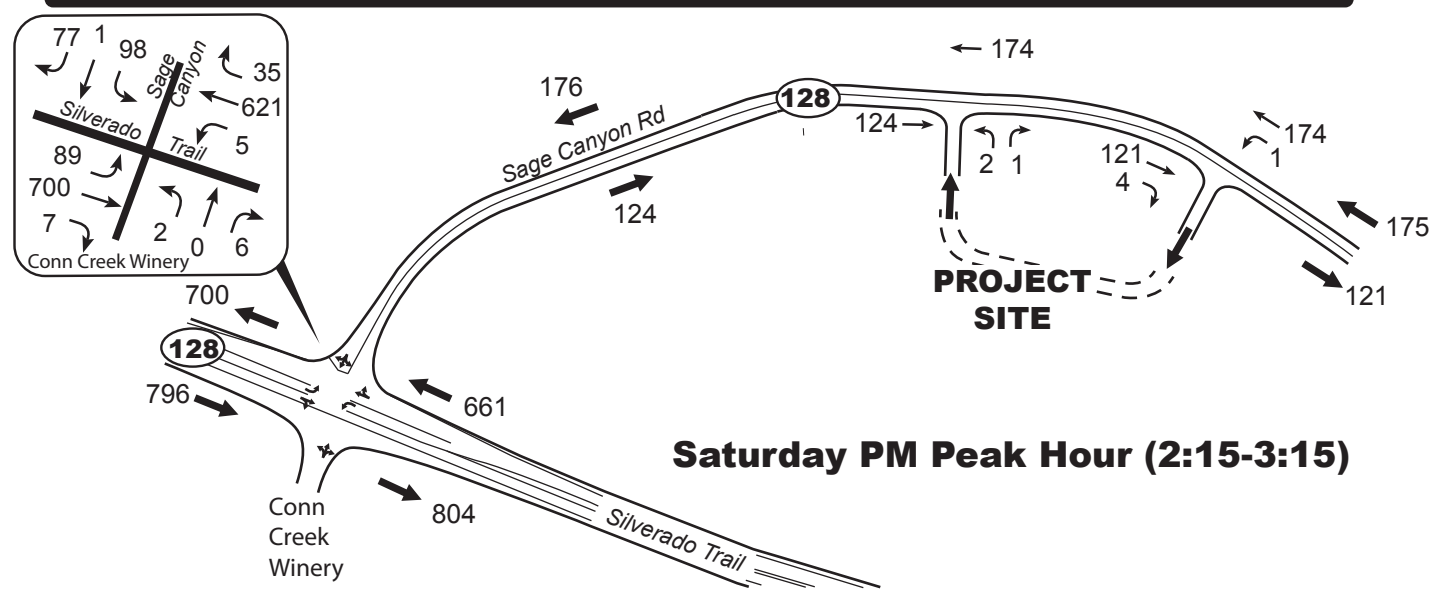
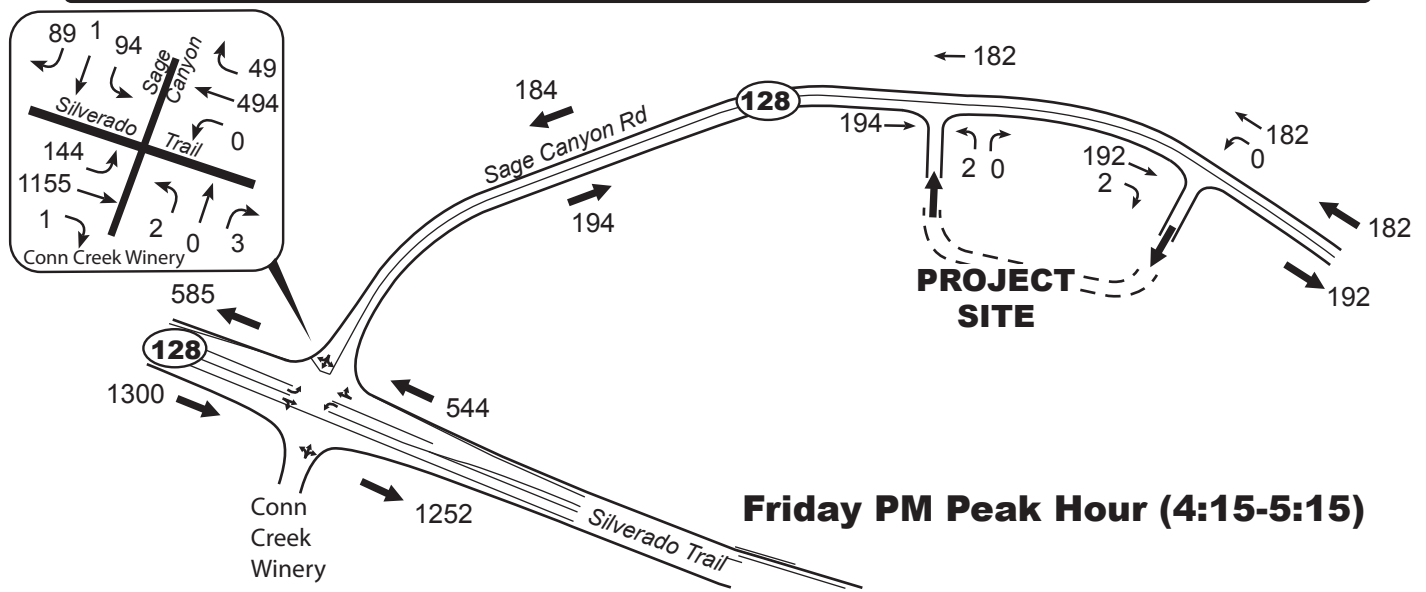
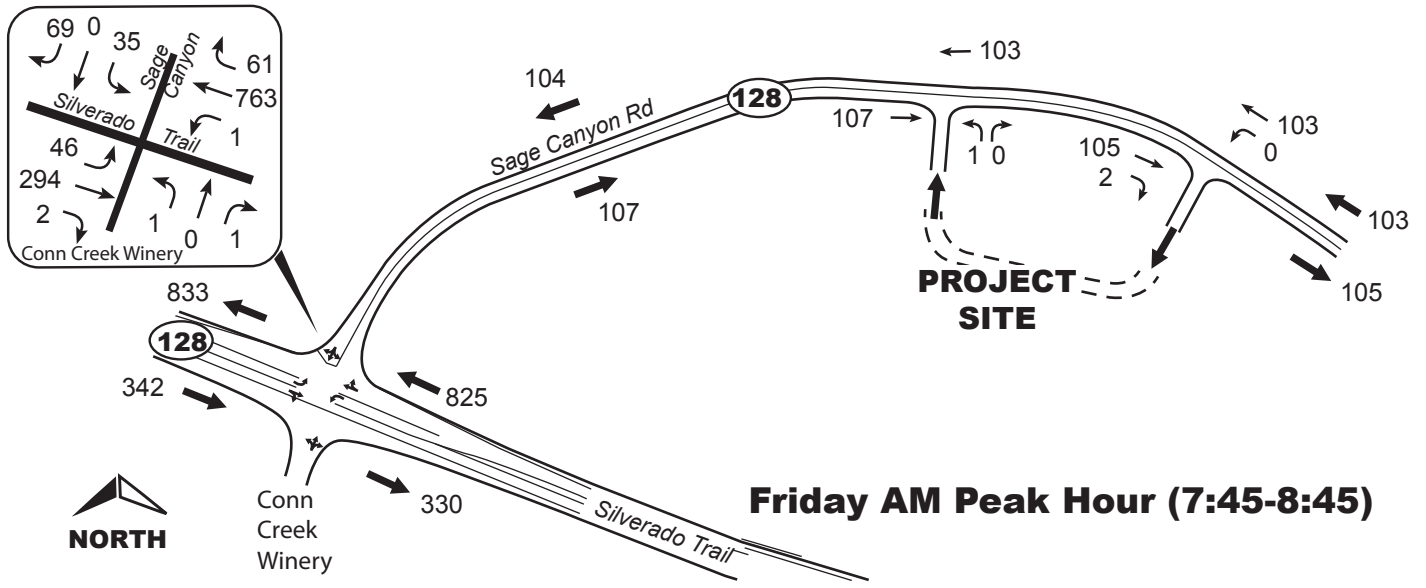


Saturday PM Peak Hour (2:15-3:15)

Dakota Shy Winery Traffic Study

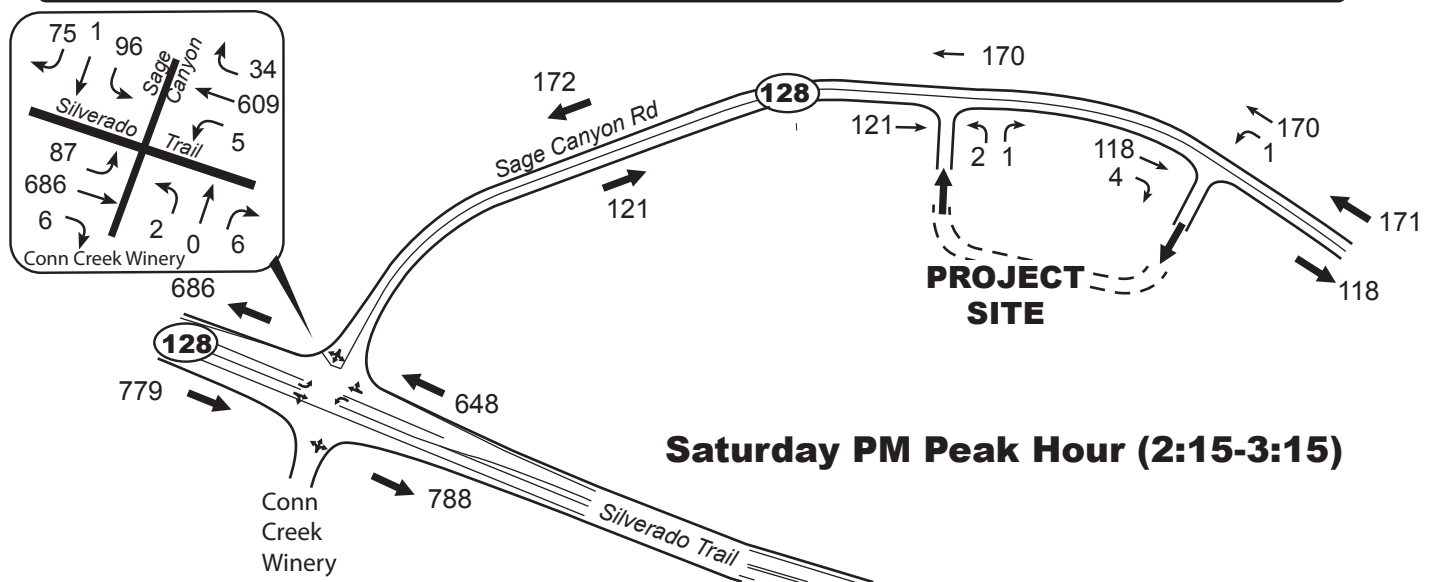
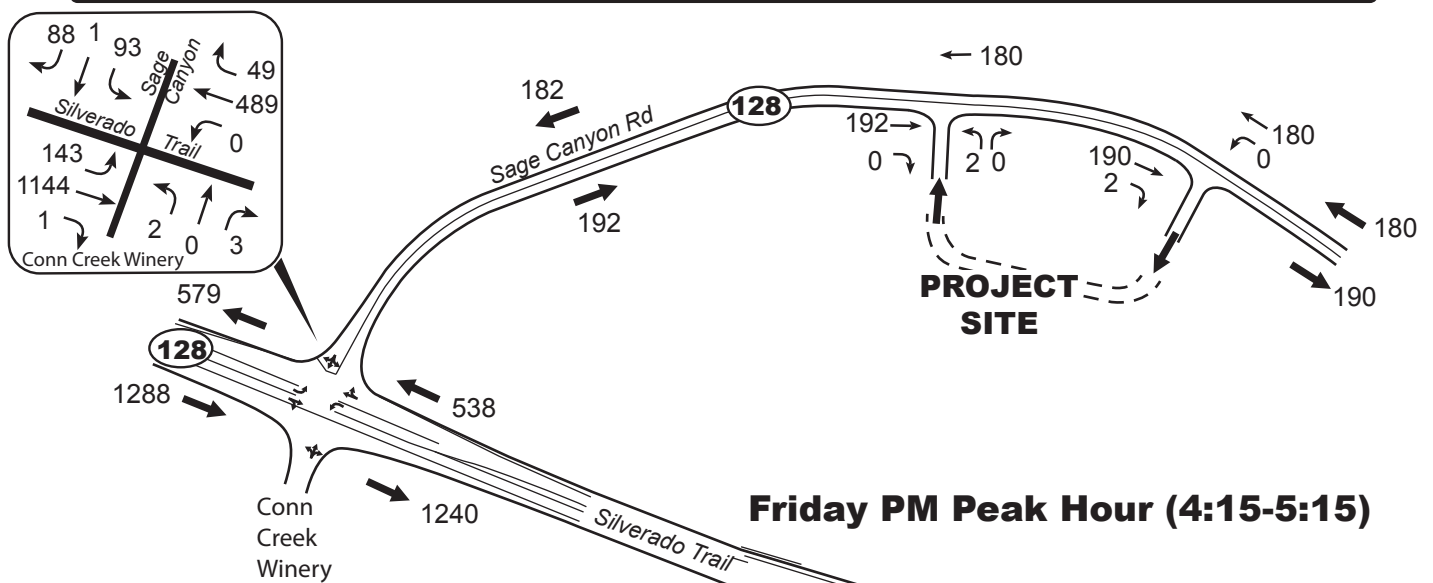
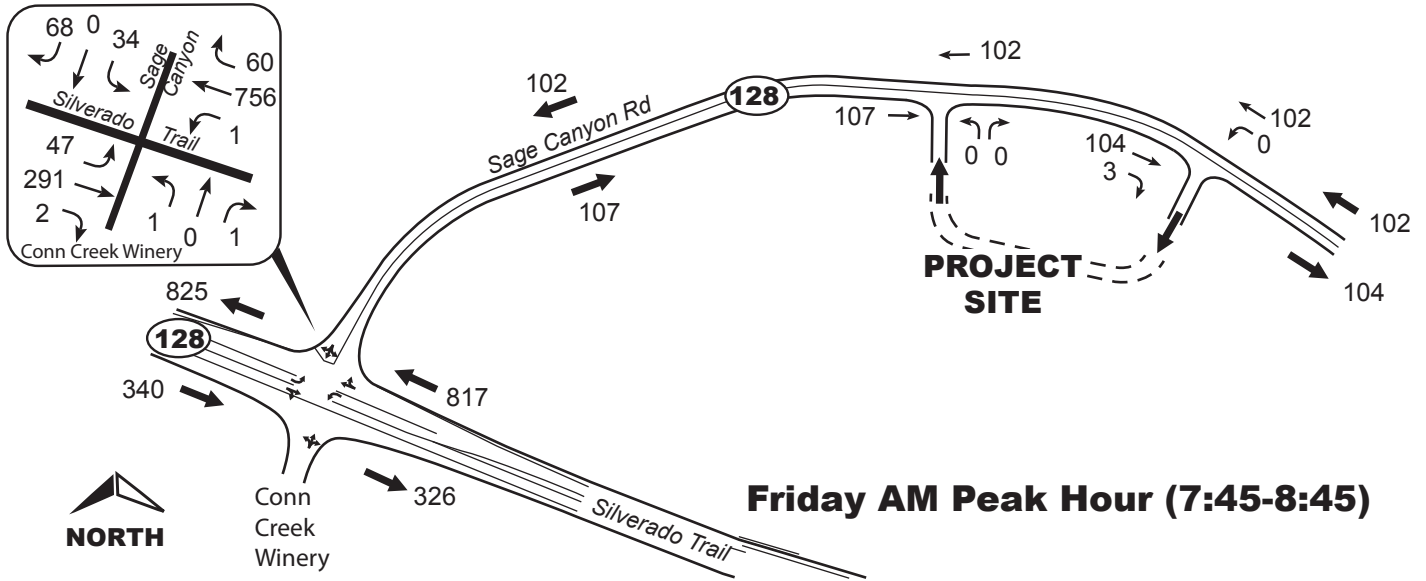
Figure 13

**2014 Summer Non-Harvest (with Project)
Friday AM & PM and Saturday
PM Peak Hour Volumes**



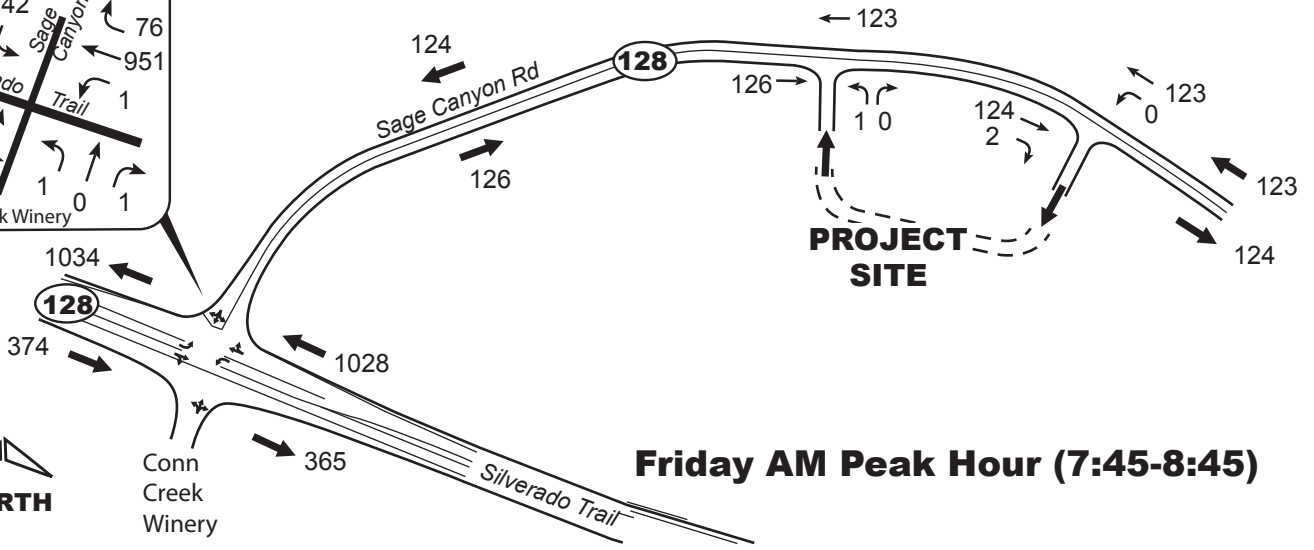
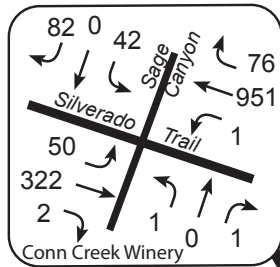
Dakota Shy Winery Traffic Study

Figure 14
Harvest 2020 (with Project)
Friday AM & PM and Saturday
PM Peak Hour Volumes

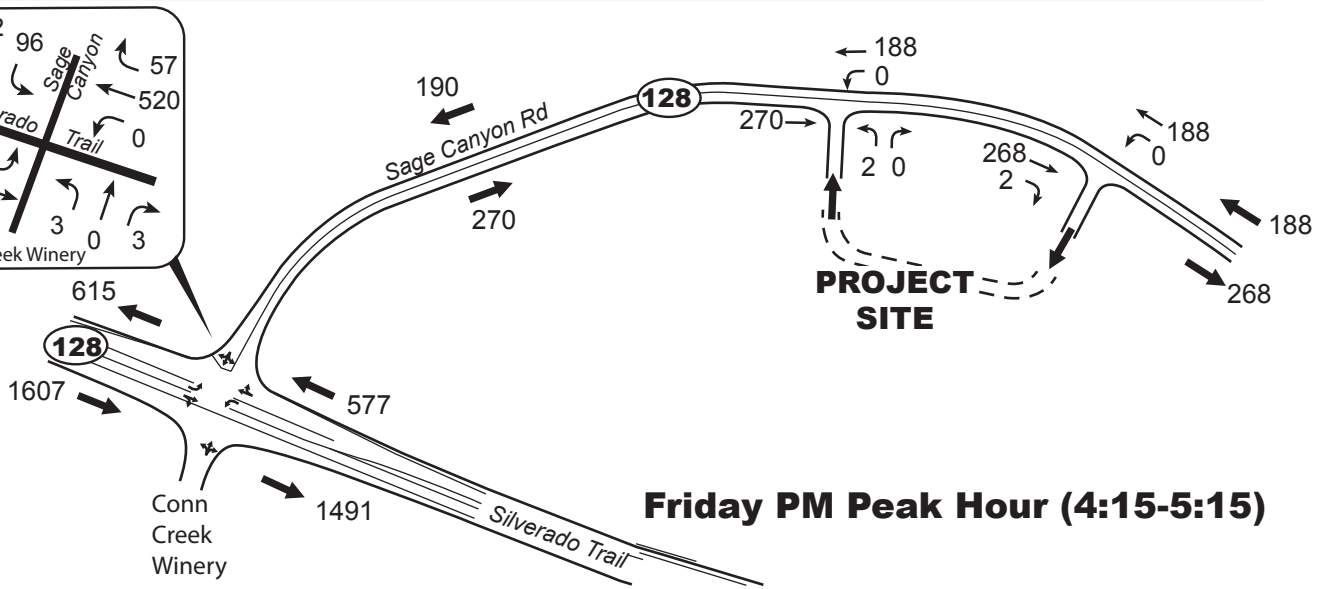
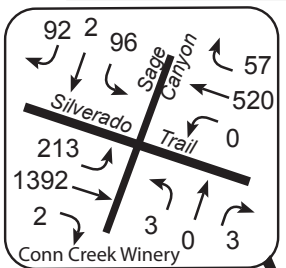


Dakota Shy Winery Traffic Study

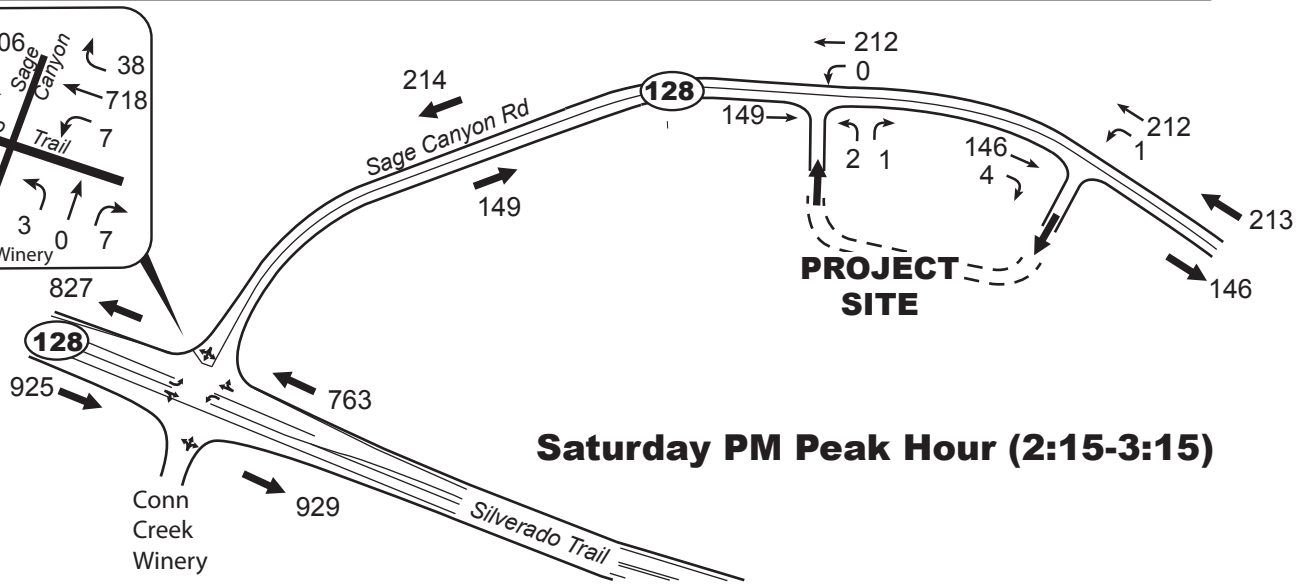
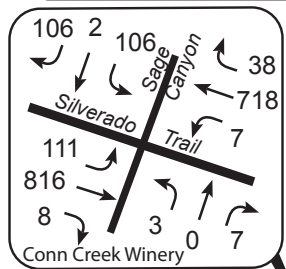
Figure 15
Summer Non-Harvest 2020 (with Project)
Friday AM & PM and Saturday
PM Peak Hour Volumes



Friday AM Peak Hour (7:45-8:45)



Friday PM Peak Hour (4:15-5:15)



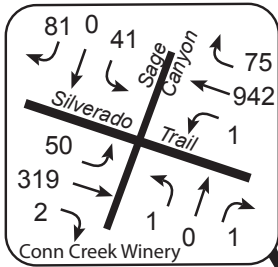
Saturday PM Peak Hour (2:15-3:15)

Dakota Shy Winery Traffic Study

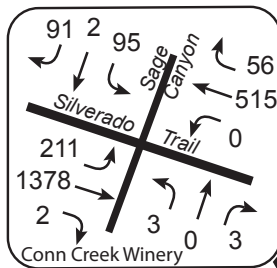


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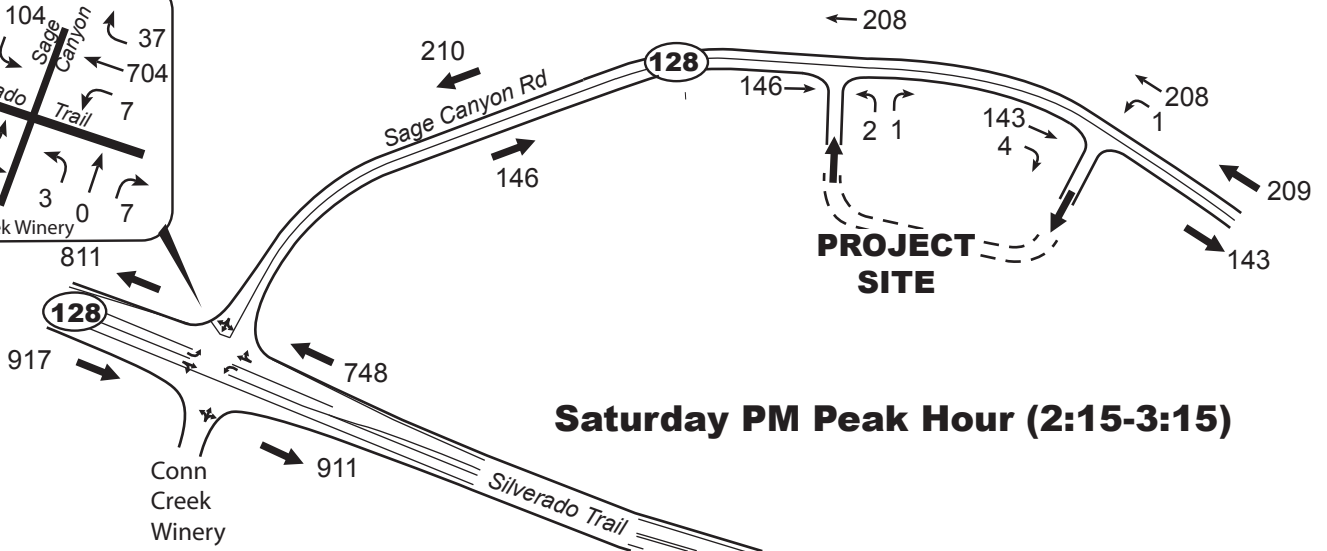
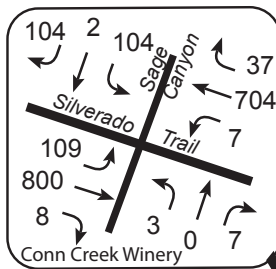
Figure 16
Harvest 2030 (with Project)
Friday AM & PM and Saturday
PM Peak Hour Volumes



Friday AM Peak Hour (7:45-8:45)



Friday PM Peak Hour (4:15-5:15)



Saturday PM Peak Hour (2:15-3:15)

Dakota Shy Winery Traffic Study

Figure 17

**Summer Non-Harvest 2030 (with Project)
Friday AM & PM and Saturday
PM Peak Hour Volumes**



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Tables

Table 1**SIGNALIZED INTERSECTION LOS CRITERIA**

Level of Service	Description	Average Control Delay (Seconds Per Vehicle)
A	Operations with very low delay occurring with favorable progression and/or short cycle lengths.	≤ 10.0
B	Operations with low delay occurring with good progression and/or short cycle lengths.	10.1 to 20.0
C	Operations with average delays resulting from fair progression and/or longer cycle lengths. Individual cycle failures begin to appear.	20.1 to 35.0
D	Operations with longer delays due to a combination of unfavorable progression, long cycle lengths, and/or high volume-to-capacity (V/C) ratios. Many vehicles stop and individual cycle failures are noticeable.	35.1 to 55.0
E	Operations with high delay values indicating poor progression, long cycle lengths, and high V/C ratios. Individual cycle failures are frequent occurrences. This is considered to be the limit of acceptable delay.	55.1 to 80.0
F	Operation with delays unacceptable to most drivers occurring due to oversaturation, poor progression, or very long cycle lengths.	> 80.0

Source: 2000 Highway Capacity Manual (Transportation Research Board).

Table 2**UNSIGNALIZED INTERSECTION LOS CRITERIA**

Level of Service	Description	Average Control Delay (Seconds Per Vehicle)
A	Little or no delays	≤ 10.0
B	Short traffic delays	10.1 to 15.0
C	Average traffic delays	15.1 to 25.0
D	Long traffic delays	25.1 to 35.0
E	Very long traffic delays	35.1 to 50.0
F	Extreme traffic delays with intersection capacity exceeded (for an all-way stop), or with approach/turn movement capacity exceeded (for a side street stop controlled intersection)	> 50.0

Source: 2000 Highway Capacity Manual (Transportation Research Board).

Table 3

**INTERSECTION LEVEL OF SERVICE
SILVERADO TRAIL/SAGE CANYON ROAD (SR 128)**

EXISTING – 2014

HARVEST

LOCATION	FRIDAY AM PEAK HOUR		FRIDAY PM PEAK HOUR		SATURDAY PM PEAK HOUR	
	W/O PROJECT	WITH PROJECT	W/O PROJECT	WITH PROJECT	W/O PROJECT	WITH PROJECT
Silverado Trail/ Sage Canyon Rd. (SR 128)	C-20.8/A-9.5 ⁽¹⁾ A-1.4 ⁽²⁾	C-21.0/A-9.5 A-1.4	F - > 120 ⁽¹⁾ / A-9.0 ⁽²⁾ F - > 120 ⁽³⁾	F - > 120/ A-9.0 F - > 120 (0.1%)*	F - > 120 ⁽¹⁾ / A-9.4 ⁽²⁾ D-25.7 ⁽³⁾	F - > 120/ A-9.4 D-26.7 (0.2%)*

SUMMER (NON-HARVEST)

LOCATION	FRIDAY AM PEAK HOUR		FRIDAY PM PEAK HOUR		SATURDAY PM PEAK HOUR	
	W/O PROJECT	WITH PROJECT	W/O PROJECT	WITH PROJECT	W/O PROJECT	WITH PROJECT
Silverado Trail/ Sage Canyon Rd. (SR 128)	C-20.5/A-9.5 ⁽¹⁾ A-1.4 ⁽²⁾	C-20.5/A-9.5 A-1.4	F - > 120/ A-9.0 ⁽²⁾ F-112.0 ⁽³⁾	F - > 120/ A-9.0 F-113.0 (0.1%)*	F - > 120 ⁽¹⁾ / A-9.4 ⁽²⁾ C-22.1 ⁽³⁾	F - > 120/ A-9.4 C-23.0 (0.2%)*

⁽¹⁾ Unsignalized level of service – control delay in seconds. Sage Canyon Road westbound stop sign controlled approach/Silverado Trail southbound left turn.

⁽²⁾ **Unsignalized level of service – control delay in seconds (entire intersection).**

* (Percent project traffic added to intersection) Less than a 1% increase is not considered a significant impact.

*Year 2010 Highway Capacity Manual (HCM) Analysis Methodology – individual approach or turn movement results
Year 2000 HCM results for overall intersection operation. No overall intersection operation results obtainable from 2010 software.*

Source: Crane Transportation Group

Table 4

INTERSECTION SIGNAL WARRANT EVALUATION

SILVERADO TRAIL/SAGE CANYON ROAD (SR 128)

**Do volumes meet peak hour signal
Warrant #3 rural condition criteria?**

EXISTING – 2014

HARVEST

FRIDAY AM PEAK HOUR		FRIDAY PM PEAK HOUR		SATURDAY PM PEAK HOUR	
W/O PROJECT	WITH PROJECT	W/O PROJECT	WITH PROJECT	W/O PROJECT	WITH PROJECT
Yes	Yes (0.2%)*	Yes	Yes (0.1%)*	Yes	Yes (0.2%)*

SUMMER (NON-HARVEST)

FRIDAY AM PEAK HOUR		FRIDAY PM PEAK HOUR		SATURDAY PM PEAK HOUR	
W/O PROJECT	WITH PROJECT	W/O PROJECT	WITH PROJECT	W/O PROJECT	WITH PROJECT
Yes	Yes (0.2%)*	Yes	Yes (0.1%)*	Yes	Yes (0.2%)*

* (Percent project traffic.) Less than a 1% increase is not considered a significant impact.

Source: Crane Transportation Group

Table 5 (page 1 of 2)
ROADWAY SEGMENT LEVEL OF SERVICE
SAGE CANYON ROAD & SILVERADO TRAIL

EXISTING – 2014

HARVEST

LOCATION	DIRECTION	DIRECTIONAL CAPACITY (VEH/HR)	FRIDAY AM PEAK HOUR				FRIDAY PM PEAK HOUR				SATURDAY PM PEAK HOUR			
			W/O PROJECT		WITH PROJECT		W/O PROJECT		WITH PROJECT		W/O PROJECT		WITH PROJECT	
			VOL ⁽¹⁾	LOS (V/C) ⁽²⁾	VOL	LOS (V/C)	VOL	LOS (V/C)	VOL	LOS (V/C)	VOL	LOS (V/C)	VOL	LOS (V/C)
Silverado Trail South Of Sage Canyon Rd.	NB	1200	702	D	703	D	518	C	519	C	587	C	588	C
	SB	1200	308	B	309	B	1096	E (.913)	1096	E (.913) [0.0%]	714	D	715	D
Silverado Trail North Of Sage Canyon Rd.	NB	1200	711	D	711	D	561	C	562	C	612	C	612	C
	SB	1200	322	B	322	B	1105	E (.921)	1105	E (.921) [0.0%]	697	D	698	D
Sage Canyon Rd. Between Silverado Trail & Project Access	EB	810	94	B	95	B	146	C	147	C	104	C	106	C
	WB	810	90	B	91	B	178	C	179	C	150	C	151	C
Sage Canyon Rd. East of Project Access	EB	810	93	B	93	B	144	C	144	C	103	C	103	C
	WB	810	90	B	90	B	177	C	177	C	150	C	150	C

(1) Vol = volume

(2) LOS (V/C) = level of service (volume to capacity ratio) at locations with unacceptable “Without Project” operation.

(3) [] = % project traffic added to road segment at locations with unacceptable “Without Project” operation. Less than a 1% increase is not considered a significant impact.

Analysis Methodology Source: Napa County General Plan Update EIR Technical Memorandum for Traffic and Circulation Supporting the Findings and recommendations, Dowling Associates, February 9, 2007.

Compiled by: Crane Transportation Group

Table 5 (page 2 of 2)
ROADWAY SEGMENT LEVEL OF SERVICE
SAGE CANYON ROAD & SILVERADO TRAIL

EXISTING – 2014

SUMMER (NON-HARVEST)

LOCATION	DIRECTION	DIRECTIONAL CAPACITY (VEH/HR)	FRIDAY AM PEAK HOUR				FRIDAY PM PEAK HOUR				SATURDAY PM PEAK HOUR			
			W/O PROJECT		WITH PROJECT		W/O PROJECT		WITH PROJECT		W/O PROJECT		WITH PROJECT	
			VOL ⁽¹⁾	LOS (V/C) ⁽²⁾	VOL	LOS (V/C)	VOL	LOS (V/C)	VOL	LOS (V/C)	VOL	LOS (V/C)	VOL	LOS (V/C)
Silverado Trail South Of Sage Canyon Rd.	NB	1200	695	D	696	D	507	C	508	C	580	C	581	C
	SB	1200	305	B	305	B	1074	E (.895)	1074	E (.895) [0.0%]	705	D	706	D
Silverado Trail North Of Sage Canyon Rd.	NB	1200	704	D	704	D	549	C	550	C	605	C	605	C
	SB	1200	319	B	320	B	1083	E (.903)	1083	E (.903) [0.0%]	688	D	689	D
Sage Canyon Rd. Between Silverado Trail & Project Access	EB	810	93	B	95	B	143	C	144	C	103	C	105	C
	WB	810	89	B	89	B	174	C	175	C	148	C	149	C
Sage Canyon Rd. East of Project Access	EB	810	92	B	92	B	141	C	141	C	102	C	102	C
	WB	810	89	B	89	B	173	C	173	C	148	C	148	C

(1) Vol = volume

(2) LOS (V/C) = level of service (volume to capacity ratio) at locations with unacceptable “Without Project” operation.

(3) [] = % project traffic added to road segment at locations with unacceptable “Without Project” operation. Less than a 1% increase is not considered a significant impact.

Analysis Methodology Source: Napa County General Plan Update EIR Technical Memorandum for Traffic and Circulation Supporting the Findings and recommendations, Dowling Associates, February 9, 2007.

Compiled by: Crane Transportation Group

Table 6

**INTERSECTION LEVEL OF SERVICE
SILVERADO TRAIL/SAGE CANYON ROAD (SR 128)**

YEAR 2020

HARVEST

LOCATION	FRIDAY AM PEAK HOUR		FRIDAY PM PEAK HOUR		SATURDAY PM PEAK HOUR	
	W/O PROJECT	WITH PROJECT	W/O PROJECT	WITH PROJECT	W/O PROJECT	WITH PROJECT
Silverado Trail/ Sage Canyon Rd. (SR 128)	D-26.3/B- 10.1 A-1.6	D-26.7/B- 10.1 A-1.6	F - > 120/ A-9.4 F - > 120	F - > 120/ A-9.4 F - > 120 (0.1%)*	F - > 120/ A-9.8 F-62	F - > 120/ A-9.8 F-63.7 (0.2%)*

SUMMER (NON-HARVEST)

LOCATION	FRIDAY AM PEAK HOUR		FRIDAY PM PEAK HOUR		SATURDAY PM PEAK HOUR	
	W/O PROJECT	WITH PROJECT	W/O PROJECT	WITH PROJECT	W/O PROJECT	WITH PROJECT
Silverado Trail/ Sage Canyon Rd. (SR 128)	D-25.9/B- 10.1 A-1.6	D-25.9/B- 10.1 A-1.6	F - > 120/ A-9.3 F - > 120	F - > 120/ A-9.3 F - > 120 (0.1%)*	F - > 120/ A-9.7 F-52.2	F - > 120/ A-9.8 F-54.0 (0.2%)*

- (1) Theoretical delay results greater than 120 seconds. Standard traffic engineering industry software does not produce meaningful delay results above 120 seconds.
- (2) Unsignalized level of service – control delay in seconds. Sage Canyon Road westbound stop sign controlled approach/Silverado Trail southbound left turn.
- (3) **Unsignalized level of service – control delay in seconds (entire intersection).**

* (Percent project traffic added to intersection) Less than a 1% increase is not considered a significant impact.

*Year 2010 Highway Capacity Manual (HCM) Analysis Methodology – individual approach or turn movement results
Year 2000 HCM results for overall intersection operation. No overall intersection operation results obtainable from 2010 software.*

Source: Crane Transportation Group

Table 7

INTERSECTION SIGNAL WARRANT EVALUATION

SILVERADO TRAIL/SAGE CANYON ROAD (SR 128)

**Do volumes meet peak hour signal
Warrant #3 rural condition criteria?**

YEAR 2020

HARVEST

FRIDAY AM PEAK HOUR		FRIDAY PM PEAK HOUR		SATURDAY PM PEAK HOUR	
W/O PROJECT	WITH PROJECT	W/O PROJECT	WITH PROJECT	W/O PROJECT	WITH PROJECT
Yes	Yes (0.2%)*	Yes	Yes (0.1%)*	Yes	Yes (0.2%)*

SUMMER (NON-HARVEST)

FRIDAY AM PEAK HOUR		FRIDAY PM PEAK HOUR		SATURDAY PM PEAK HOUR	
W/O PROJECT	WITH PROJECT	W/O PROJECT	WITH PROJECT	W/O PROJECT	WITH PROJECT
Yes	Yes (0.2%)*	Yes	Yes (0.1%)*	Yes	Yes (0.2%)*

* (Percent project traffic.) Less than a 1% increase is not considered a significant impact.

Source: Crane Transportation Group

Table 8 (page 1 of 2)
ROADWAY SEGMENT LEVEL OF SERVICE
SAGE CANYON ROAD & SILVERADO TRAIL

YEAR 2020

HARVEST

LOCATION	DIRECTION	DIRECTIONAL CAPACITY (VEH/HR)	FRIDAY AM PEAK HOUR				FRIDAY PM PEAK HOUR				SATURDAY PM PEAK HOUR			
			W/O PROJECT		WITH PROJECT		W/O PROJECT		WITH PROJECT		W/O PROJECT		WITH PROJECT	
			VOL ⁽¹⁾	LOS (V/C) ⁽²⁾	VOL	LOS (V/C)	VOL	LOS (V/C)	VOL	LOS (V/C)	VOL	LOS (V/C)	VOL	LOS (V/C)
Silverado Trail South Of Sage Canyon Rd.	NB	1200	824	D	825	D	543	C	544	C	660	D	661	D
	SB	1200	329	B	330	B	1252	F (1.043)	1252	F (1.043) [0.0%]	803	D	804	D
Silverado Trail North Of Sage Canyon Rd.	NB	1200	833	D	833	D	584	C	585	C	700	D	700	D
	SB	1200	342	C	342	C	1300	F (1.083)	1300	F (1.083) [0.0%]	795	D	796	D
Sage Canyon Rd. Between Silverado Trail & Project Access	EB	810	106	C	107	C	193	C	194	C	122	C	124	C
	WB	810	103	C	104	C	183	C	184	C	175	C	176	C
Sage Canyon Rd. East of Project Access	EB	810	105	C	105	C	192	C	192	C	121	C	121	C
	WB	810	103	C	103	C	182	C	182	C	175	C	175	C

(1) Vol = volume

(2) LOS (V/C) = level of service (volume to capacity ratio) at locations with unacceptable “Without Project” operation.

(3) [] = % project traffic added to road segment at locations with unacceptable “Without Project” operation. Less than a 1% increase is not considered a significant impact.

Analysis Methodology Source: Napa County General Plan Update EIR Technical Memorandum for Traffic and Circulation Supporting the Findings and recommendations, Dowling Associates, February 9, 2007.

Compiled by: Crane Transportation Group

Table 8 (page 2 of 2)
ROADWAY SEGMENT LEVEL OF SERVICE
SAGE CANYON ROAD & SILVERADO TRAIL

YEAR 2020

SUMMER (NON-HARVEST)

LOCATION	DIRECTION	DIRECTIONAL CAPACITY (VEH/HR)	FRIDAY AM PEAK HOUR				FRIDAY PM PEAK HOUR				SATURDAY PM PEAK HOUR			
			W/O PROJECT		WITH PROJECT		W/O PROJECT		WITH PROJECT		W/O PROJECT		WITH PROJECT	
			VOL ⁽¹⁾	LOS (V/C) ⁽²⁾	VOL	LOS (V/C)	VOL	LOS (V/C)	VOL	LOS (V/C)	VOL	LOS (V/C)	VOL	LOS (V/C)
Silverado Trail South Of Sage Canyon Rd.	NB	1200	816	D	817	D	537	C	538	C	647	D	648	D
	SB	1200	326	B	326	B	1240	F (1.033)	1240	F (1.033) [0.0%]	787	D	788	D
Silverado Trail North Of Sage Canyon Rd.	NB	1200	825	D	825	D	578	C	579	C	686	D	686	D
	SB	1200	339	C	340	C	1288	F (1.073)	1288	F (1.073) [0.0%]	778	D	779	D
Sage Canyon Rd. Between Silverado Trail & Project Access	EB	810	105	C	107	C	191	C	192	C	119	C	121	C
	WB	810	102	C	102	C	181	C	182	C	171	C	172	C
Sage Canyon Rd. East of Project Access	EB	810	104	C	104	C	190	C	190	C	118	C	118	C
	WB	810	102	C	102	C	180	C	180	C	171	C	171	C

(1) Vol = volume

(2) LOS (V/C) = level of service (volume to capacity ratio) at locations with unacceptable “Without Project” operation.

(3) [] = % project traffic added to road segment at locations with unacceptable “Without Project” operation. Less than a 1% increase is not considered a significant impact.

Analysis Methodology Source: Napa County General Plan Update EIR Technical Memorandum for Traffic and Circulation Supporting the Findings and recommendations, Dowling Associates, February 9, 2007.

Compiled by: Crane Transportation Group

Table 9

**INTERSECTION LEVEL OF SERVICE
SILVERADO TRAIL/SAGE CANYON ROAD (SR 128)**

YEAR 2030

HARVEST

LOCATION	FRIDAY AM PEAK HOUR		FRIDAY PM PEAK HOUR		SATURDAY PM PEAK HOUR	
	W/O PROJECT	WITH PROJECT	W/O PROJECT	WITH PROJECT	W/O PROJECT	WITH PROJECT
Silverado Trail/ Sage Canyon Rd. (SR 128)	E-46.1/B-11.2 A-2.8	E-47.0/B-11.2 A-2.8 (0.1%)*	F - > 120/ A-10.0 F - > 120	F - > 120/ A-10.0 F - > 120 (0.1%)*	F - > 120/ B-10.5 F - > 120	F - > 120/ B-10.5 F - > 120 (0.2%)*

SUMMER (NON-HARVEST)

LOCATION	FRIDAY AM PEAK HOUR		FRIDAY PM PEAK HOUR		SATURDAY PM PEAK HOUR	
	W/O PROJECT	WITH PROJECT	W/O PROJECT	WITH PROJECT	W/O PROJECT	WITH PROJECT
Silverado Trail/ Sage Canyon Rd. (SR 28)	E-44.9/B-11.1 A-2.7	E-44.9/B-11.1 A-2.7 (0.1%)*	F - > 120/ A-9.9 F - > 120	F - > 120/ A-9.9 F - > 120 (0.1%)*	F - > 120/ B-10.4 F - > 120	F - > 120/ B-10.5 F - > 120 (0.2%)*

- (1) Theoretical delay results greater than 120 seconds. Standard traffic engineering industry software does not produce meaningful delay results above 120 seconds.
- (2) Unsignalized level of service – control delay in seconds. Sage Canyon Road westbound stop sign controlled approach/Silverado Trail southbound left turn.
- (3) **Unsignalized level of service – control delay in seconds (entire intersection).**

* (Percent project traffic added to intersection) Less than a 1% increase is not considered a significant impact.

*Year 2010 Highway Capacity Manual (HCM) Analysis Methodology – individual approach or turn movement results
Year 2000 HCM results for overall intersection operation. No overall intersection operation results obtainable from 2010 software.*

Source: Crane Transportation Group

Table 10

INTERSECTION SIGNAL WARRANT EVALUATION

SILVERADO TRAIL/SAGE CANYON ROAD (SR 128)

**Do volumes meet peak hour signal
Warrant #3 rural condition criteria?**

YEAR 2030

HARVEST

FRIDAY AM PEAK HOUR		FRIDAY PM PEAK HOUR		SATURDAY PM PEAK HOUR	
W/O PROJECT	WITH PROJECT	W/O PROJECT	WITH PROJECT	W/O PROJECT	WITH PROJECT
Yes	Yes (0.1%)*	Yes	Yes (0.1%)*	Yes	Yes (0.2%)*

SUMMER (NON-HARVEST)

FRIDAY AM PEAK HOUR		FRIDAY PM PEAK HOUR		SATURDAY PM PEAK HOUR	
W/O PROJECT	WITH PROJECT	W/O PROJECT	WITH PROJECT	W/O PROJECT	WITH PROJECT
Yes	Yes (0.1%)*	Yes	Yes (0.1%)*	Yes	Yes (0.2%)*

* (Percent project traffic.) Less than a 1% increase is not considered a significant impact.

Source: Crane Transportation Group

Table 11 (page 1 of 2)
ROADWAY SEGMENT LEVEL OF SERVICE
SAGE CANYON ROAD & SILVERADO TRAIL

YEAR 2030

HARVEST

LOCATION	DIRECTION	DIRECTIONAL CAPACITY (VEH/HR)	FRIDAY AM PEAK HOUR				FRIDAY PM PEAK HOUR				SATURDAY PM PEAK HOUR			
			W/O PROJECT		WITH PROJECT		W/O PROJECT		WITH PROJECT		W/O PROJECT		WITH PROJECT	
			VOL ⁽¹⁾	LOS (V/C) ⁽²⁾	VOL	LOS (V/C)	VOL	LOS (V/C)	VOL	LOS (V/C)	VOL	LOS (V/C)	VOL	LOS (V/C)
Silverado Trail South Of Sage Canyon Rd.	NB	1200	1027	E (.856)	1028	E (.857)[0.1%]	576	C	577	C	762	D	763	D
	SB	1200	364	C	365	C	1491	F (1.243)	1491	F (1.243)[0.0%]	928	E (.773)	929	E (.774)[0.1%]
Silverado Trail North Of Sage Canyon Rd.	NB	1200	1034	E (.862)	1034	E (.862)[0.0%]	614	C	615	C	827	D	827	D
	SB	1200	374	C	374	C	1607	F (1.339)	1607	F (1.339)[0.0%]	924	E (.770)	925	E (.771)[0.1%]
Sage Canyon Rd. Between Silverado Trail & Project Access	EB	810	125	C	126	C	269	C	270	C	147	C	149	C
	WB	810	123	C	124	C	189	C	190	C	213	C	214	C
Sage Canyon Rd. East of Project Access	EB	810	124	C	124	C	268	C	268	C	146	C	146	C
	WB	810	123	C	123	C	188	C	188	C	213	C	213	C

(1) Vol = volume

(2) LOS (V/C) = level of service (volume to capacity ratio) at locations with unacceptable “Without Project” operation.

(3) [] = % project traffic added to road segment at locations with unacceptable “Without Project” operation. Less than a 1% increase is not considered a significant impact.

Analysis Methodology Source: Napa County General Plan Update EIR Technical Memorandum for Traffic and Circulation Supporting the Findings and recommendations, Dowling Associates, February 9, 2007.

Compiled by: Crane Transportation Group

Table 11 (page 2 of 2)
ROADWAY SEGMENT LEVEL OF SERVICE
SAGE CANYON ROAD & SILVERADO TRAIL

YEAR 2030

SUMMER (NON-HARVEST)

LOCATION	DIRECTION	DIRECTIONAL CAPACITY (VEH/HR)	FRIDAY AM PEAK HOUR				FRIDAY PM PEAK HOUR				SATURDAY PM PEAK HOUR			
			W/O PROJECT		WITH PROJECT		W/O PROJECT		WITH PROJECT		W/O PROJECT		WITH PROJECT	
			VOL ⁽¹⁾	LOS (V/C) ⁽²⁾	VOL	LOS (V/C)	VOL	LOS (V/C)	VOL	LOS (V/C)	VOL	LOS (V/C)	VOL	LOS (V/C)
Silverado Trail South Of Sage Canyon Rd.	NB	1200	1017	E (.848)	1018	E (.848) [0.1%]	570	C	571	C	747	D	748	D
	SB	1200	361	C	361	C	1476	F (1.230)	1476	F (1.230) [0.0%]	910	E (.758)	911	E (.759) [0.1%]
Silverado Trail North Of Sage Canyon Rd.	NB	1200	1024	E (.853)	1024	E (.853) [0.0%]	608	C	609	C	811	D	811	D
	SB	1200	370	C	371	C	1591	F (1.326)	1591	F (1.326) [0.0%]	916	E (.763)	917	E (.764) [0.1%]
Sage Canyon Rd. Between Silverado Trail & Project Access	EB	810	123	C	125	C	266	C	267	C	144	C	146	C
	WB	810	122	C	122	C	187	C	188	C	209	C	210	C
Sage Canyon Rd. East of Project Access	EB	810	122	C	122	C	265	C	265	C	143	C	143	C
	WB	810	122	C	122	C	186	C	186	C	209	C	209	C

(1) Vol = volume

(2) LOS (V/C) = level of service (volume to capacity ratio) at locations with unacceptable “Without Project” operation.

(3) [] = % project traffic added to road segment at locations with unacceptable “Without Project” operation. Less than a 1% increase is not considered a significant impact.

Analysis Methodology Source: Napa County General Plan Update EIR Technical Memorandum for Traffic and Circulation Supporting the Findings and recommendations, Dowling Associates, February 9, 2007.

Compiled by: Crane Transportation Group

Table 12
PROJECT TRIP GENERATION
DAKOTA SHY WINERY

HARVEST

FRIDAY

	TOTAL	HOURS	TRIPS									
			7-8 AM		8-9 AM		3-4 PM		4-5 PM		5-6 PM	
			IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
Admin Employees – Full Time	1	9AM-6PM	0	0	1	0	0	0	0	0	0	0
Production Employees – Full Time	2	6AM-6PM	0	0	0	0	0	0	0	0	0	0
Production Employees – Part Time	2	6AM-6PM	0	0	0	0	0	0	0	0	0	0
Tours/Tasting Employees	1	10AM-6PM	0	0	0	0	0	0	0	0	0	0
Grape Delivery Trucks (2% grown on site)	1/day	7AM-4PM ⁽¹⁾	0	0	1*	1	0	0	0	0	0	0
Visitors	20 total = 8 vehicles ⁽²⁾	10AM-6PM	0	0	0	0	1	2	1	1	0	1
TOTAL			0	0	2	1	1	2	1	1	0	1

* Enters via northbound right turn to Silverado Trail driveway.

⁽¹⁾ Grapes typically delivered in the morning.

⁽²⁾ 2.6 visitors/vehicle average on weekdays per County data.

Source: Dakota Shy Winery project applicant; Compiled by: Crane Transportation Group

Table 13
PROJECT TRIP GENERATION
DAKOTA SHY WINERY

HARVEST

SATURDAY

	TOTAL	HOURS	TRIPS								
			2-3 PM		3-4 PM		4-5 PM		5-6 PM		
			IN	OUT	IN	OUT	IN	OUT	IN	OUT	
Admin Employees – Full Time	1	9AM-6PM	0	0	0	0	0	0	0	0	0
Production Employees – Full Time	2	6AM-6PM	0	0	0	0	0	0	0	0	0
Production Employees – Part Time	2	6AM-6PM	0	0	0	0	0	0	0	0	0
Tours/Tasting Employees	1	10AM-6PM	0	0	0	0	0	0	0	0	0
Grape Delivery Trucks (2% grown on site)	1/day	7AM-4PM ⁽¹⁾	0	0	0	0	0	0	0	0	0
Visitors	20 total = 8 vehicles ⁽²⁾	10AM-6PM	2	1	1	2	1	1	0	1	
TOTAL			2	1	1	2	1	1	0	1	

⁽¹⁾ Grapes typically delivered in the morning.

⁽²⁾ 2.8 visitors/vehicle average on Saturdays per County data.

Source: Dakota Shy Winery project applicant; Compiled by: Crane Transportation Group

Table 14
PROJECT TRIP GENERATION
DAKOTA SHY WINERY
SUMMER (NON-HARVEST)

FRIDAY

	TOTAL	HOURS	TRIPS									
			7-8 AM		8-9 AM		3-4 PM		4-5 PM		5-6 PM	
			IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
Admin Employees – Full Time	1	9AM-6PM	0	0	1	0	0	0	0	0	0	0
Production Employees – Full Time	2	9AM-6PM	0	0	2	0	0	0	0	0	0	0
Production Employees – Part Time	1	9AM-6PM	0	0	1	0	0	0	0	0	0	0
Tours/Tasting Employees	1	10AM-6PM	0	0	0	0	0	0	0	0	0	0
Visitors	20 total = 8 vehicles ⁽¹⁾	10AM-6PM	0	0	0	0	1	2	1	1	0	1
TOTAL			0	0	4	0	1	2	1	1	0	1

⁽¹⁾ 2.6 visitors/vehicle average on weekdays per County data.

Source: Dakota Shy Winery project applicant; Compiled by: Crane Transportation Group

Table 15
PROJECT TRIP GENERATION
DAKOTA SHY WINERY
SUMMER (NON-HARVEST)

SATURDAY

	TOTAL	HOURS	TRIPS								
			2-3 PM		3-4 PM		4-5 PM		5-6 PM		
			IN	OUT	IN	OUT	IN	OUT	IN	OUT	
Admin Employees – Full Time	1	9AM-6PM	0	0	0	0	0	0	0	0	0
Production Employees – Full Time	0		0	0	0	0	0	0	0	0	0
Production Employees – Part Time	0		0	0	0	0	0	0	0	0	0
Tours/Tasting Employees	1	10AM-6PM	0	0	0	0	0	0	0	0	0
Visitors	20 total = 8 vehicles ⁽¹⁾	10AM-6PM	2	1	1	2	1	1	0	1	
TOTAL			2	1	1	2	1	1	0	1	

⁽¹⁾ 2.8 visitors/vehicle average on Saturdays per County data.

Source: Dakota Shy Winery project applicant; Compiled by: Crane Transportation Group

Table 16

**PROJECT TRIP GENERATION SUMMARY
DAKOTA SHY WINERY**

HARVEST

FRIDAY AM PEAK HOUR* (7:45-8:45)		FRIDAY PM PEAK HOUR* (4:15-5:15)		SATURDAY PM PEAK HOUR* (2:15-3:15)	
INBOUND TRIPS	OUTBOUND TRIPS	INBOUND TRIPS	OUTBOUND TRIPS	INBOUND TRIPS	OUTBOUND TRIPS
2	1	1	1	2	1

SUMMER (NON-HARVEST)

FRIDAY AM PEAK HOUR* (7:45-8:45)		FRIDAY PM PEAK HOUR* (4:15-5:15)		SATURDAY PM PEAK HOUR* (2:15-3:15)	
INBOUND TRIPS	OUTBOUND TRIPS	INBOUND TRIPS	OUTBOUND TRIPS	INBOUND TRIPS	OUTBOUND TRIPS
2	0	1	1	2	1

* Peak hour at the Silverado Trail/Sage Canyon Road intersection.

Source: Dakota Shy Winery; compiled by Crane Transportation Group

Table 17

**CALTRANS HOURLY VOLUME WARRANTS FOR
PROVISION OF LEFT TURN DECELERATION LANES
ON TWO-LANE STATE HIGHWAYS**

40 mph Operating Speed				
Advancing Volumes, VPH*				
Opposing Volume, VPH*	5% Left Turns	10% Left Turns	20% Left Turns	30% Left Turns
800	330	240	150	180
600	410	305	225	200
400	510	380	275	245
200	640	470	360	305
100	720	575	390	340
50 mph Operating Speed				
800	280	210	165	135
600	350	260	195	170
400	430	320	240	210
200	550	400	300	270
100	615	445	335	295
60 mph Operating Speed				
800	230	170	125	115
600	290	210	160	140
400	365	270	200	175
200	450	330	250	215
100	505	370	275	240

* VPH = vehicles per hour

Note: For 2030 conditions the advancing volume is 207 vehicles. There are 0.5% left turns and the opposing volume is 153 vehicles per hour.

Source: Caltrans Guidelines for Reconstruction of Intersections, 1985.

SR128 East of Silverado Trail at the Dakota Shy Winery Inbound Entrance Driveway

Dakota Shy Winery

Table 18

COUNTY of NAPA LEFT TURN WARRANT GRAPH at Private Road and Driveway Intersections

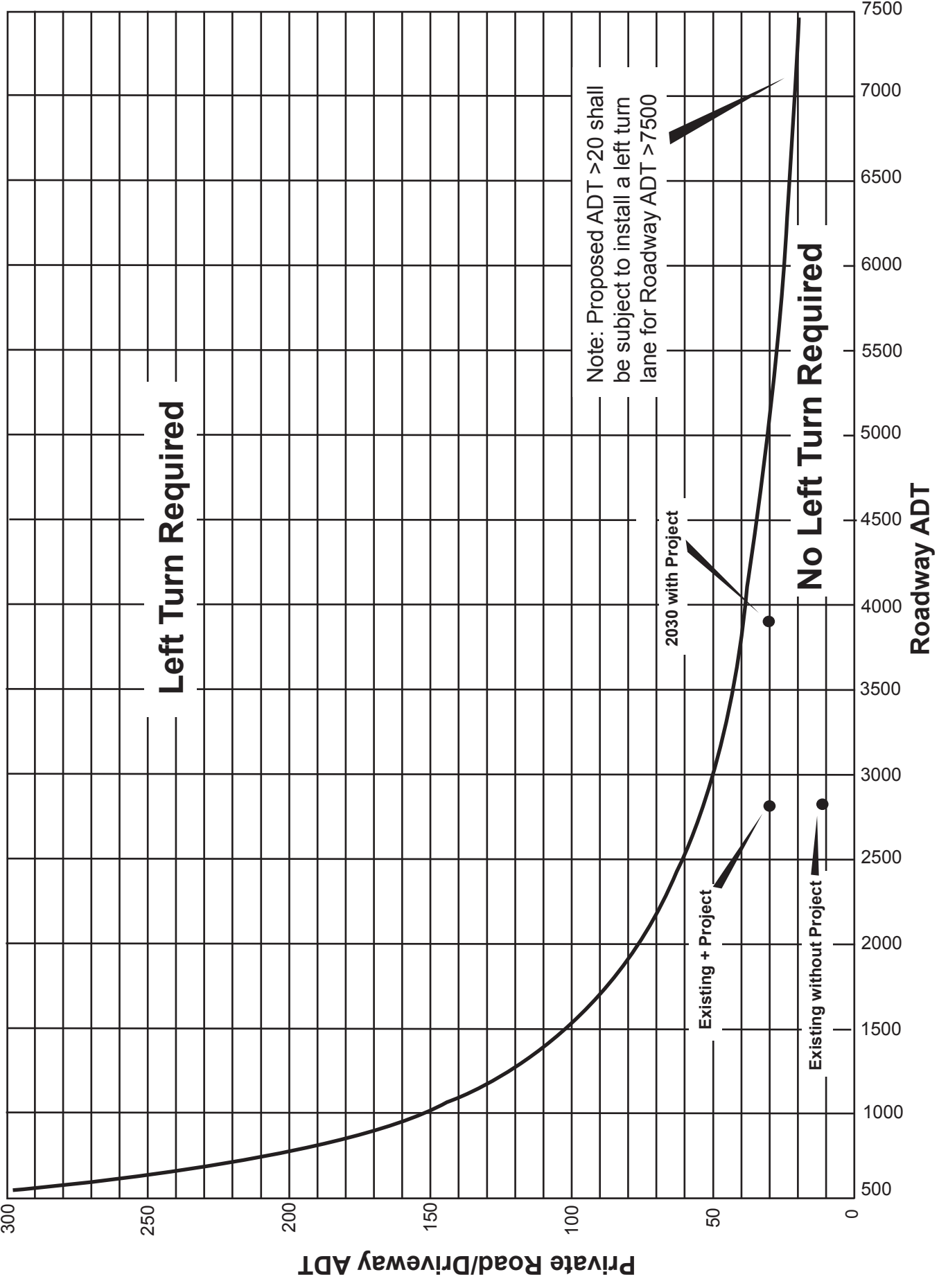


Table 19

DAKOTA SHY WINERY MARKETING EVENT TRAFFIC DETAILS

MARKETING EVENT	STAFF/GUEST CATEGORY	# OF PEOPLE	# OF VEHICLES	TIMES	REGULAR VISITATION ELIMINATED DURING MARKETING EVENT?
Wine Release (2 per year)	Guests	40	15 vehicles	Will occur during off peak traffic hours along Silverado Trail. Typically 3 hours long. Saturday or Sunday	Yes
	Extra Winery Staff	0	N/A		
	Caterers	3	1		
	Entertainers	2	1		
	Delivery vehicles	2	1		
	Florist	1	1		

Source: Dakota Shy applicant; compiled by Crane Transportation Group

Appendix

Appendix

**DAKOTA SHY WINERY
EXPECTED PROJECT TRAFFIC ACTIVITY DETAILS**

HARVEST CONDITIONS	NON-HARVEST CONDITIONS
<p>A. Full-time admin employees # on Weekdays <u> 1 </u> # on Saturday <u> 1 </u> # on Sunday <u> 1 </u> Work hours: Weekday 9:00 AM to 6:00 PM Saturday 9:00 AM to 6:00 PM Sunday 9:00 AM to 6:00 PM</p>	<p>Full-time admin employees # on Weekdays <u> 1 </u> # on Saturday <u> 0 </u> # on Sunday <u> 0 </u> Work hours: Weekday 9:00 AM to 6:00 PM Saturday <u> — </u> to <u> — </u> Sunday <u> — </u> to <u> — </u></p>
<p>B. Full-time production employees # on Weekdays <u> 2 </u> # on Saturday <u> 2 </u> # on Sunday <u> 2 </u> Work hours: Weekday 6:00 AM to 6:00 PM Saturday 6:00 AM to 6:00 PM Sunday 6:00 AM to 6:00 PM</p>	<p>Full-time production employees # on Weekdays <u> 2 </u> # on Saturday <u> 0 </u> # on Sunday <u> 0 </u> Work hours: Weekday 9:00 AM to 6:00 PM Saturday <u> — </u> to <u> — </u> Sunday <u> — </u> to <u> — </u></p>
<p>C. Part-time production employees # on Weekdays <u> 2 </u> # on Saturday <u> 2 </u> # on Sunday <u> 2 </u> Work hours: Weekday 6:00 AM to 6:00 PM Saturday 6:00 AM to 6:00 PM Sunday 6:00 AM to 6:00 PM</p>	<p>Part-time production employees # on Weekdays <u> 1 </u> # on Saturday <u> 0 </u> # on Sunday <u> 0 </u> Work hours: Weekday 9:00 AM to 6:00 PM Saturday <u> — </u> to <u> — </u> Sunday <u> — </u> to <u> — </u></p>
<p>D. Tours & tasting employees # on Weekdays <u> 1 </u> # on Saturday <u> 1 </u> # on Sunday <u> 1 </u> Work hours: Weekday 10:00 AM to 6:00 PM Saturday 10:00 AM to 6:00 PM Sunday 10:00 AM to 6:00 PM</p>	<p>Tours & tasting employees # on Weekdays <u> 1 </u> # on Saturday <u> 1 </u> # on Sunday <u> 1 </u> Work hours: Weekday 10:00 AM to 6:00 PM Saturday 10:00 AM to 6:00 PM Sunday 10:00 AM to 6:00 PM</p>

Appendix

**DAKOTA SHY WINERY
EXPECTED PROJECT TRAFFIC ACTIVITY DETAILS**

HARVEST CONDITIONS	NON-HARVEST CONDITIONS
<p>E. Grape Delivery Trucks # on Weekdays <u> 1 </u> # on Saturday <u> 1 </u> # on Sunday <u> 0 </u> Delivery hours: Weekday 7:00 AM to 4:00 PM Saturday 7:00 AM to 4:00 PM Sunday <u> - </u> to <u> - </u></p>	<p>No grape delivery</p>
<p>F. Maximum tours/tasting visitors # on Weekdays <u> 20 (8 vehicles)* </u> # on Saturday <u> 20 (8 vehicles)** </u> # on Sunday <u> 20 (8 vehicles)** </u> Tasting hours: Weekday 10:00 AM to 6:00 PM Saturday 10:00 AM to 6:00 PM Sunday 10:00 AM to 6:00 PM</p>	<p>Maximum tours/tasting visitors # on Weekdays <u> 20 (8 vehicles) </u> # on Saturday <u> 20 (8 vehicles) </u> # on Sunday <u> 20 (8 vehicles) </u> Tasting hours: Weekday 10:00 AM to 6:00 PM Saturday 10:00 AM to 6:00 PM Sunday 10:00 AM to 6:00 PM</p>
<p>G. Other employees # on Weekdays <u> 0 </u> # on Saturday <u> 0 </u> # on Sunday <u> 0 </u> Work hours: Weekday <u> - </u> to <u> - </u> Saturday <u> - </u> to <u> - </u> Sunday <u> - </u> to <u> - </u></p>	<p>Other employees # on Weekdays <u> 0 </u> # on Saturday <u> 0 </u> # on Sunday <u> 0 </u> Work hours: Weekday <u> - </u> to <u> - </u> Saturday <u> - </u> to <u> - </u> Sunday <u> - </u> to <u> - </u></p>
<p>H. Other trucks # on Weekdays <u> 1-2/week </u> # on Saturday <u> 0 </u> # on Sunday <u> 0 </u> Delivery hours: Weekday 9:00 AM to 4:00 PM Saturday <u> - </u> to <u> - </u> Sunday <u> - </u> to <u> - </u></p>	<p>Other trucks # on Weekdays <u> 1-2/week </u> # on Saturday <u> 0 </u> # on Sunday <u> 0 </u> Delivery hours: Weekday 9:00 AM to 4:00 PM Saturday <u> - </u> to <u> - </u> Sunday <u> - </u> to <u> - </u></p>

* 2.6 winery visitors/vehicle County average.

** 2.8 winery visitors/vehicle County average.

Appendix

DAKOTA SHY WINERY EXPECTED PROJECT TRAFFIC ACTIVITY DETAILS

GRAPE DELIVERY

Percent of grapes grown on site: 2%

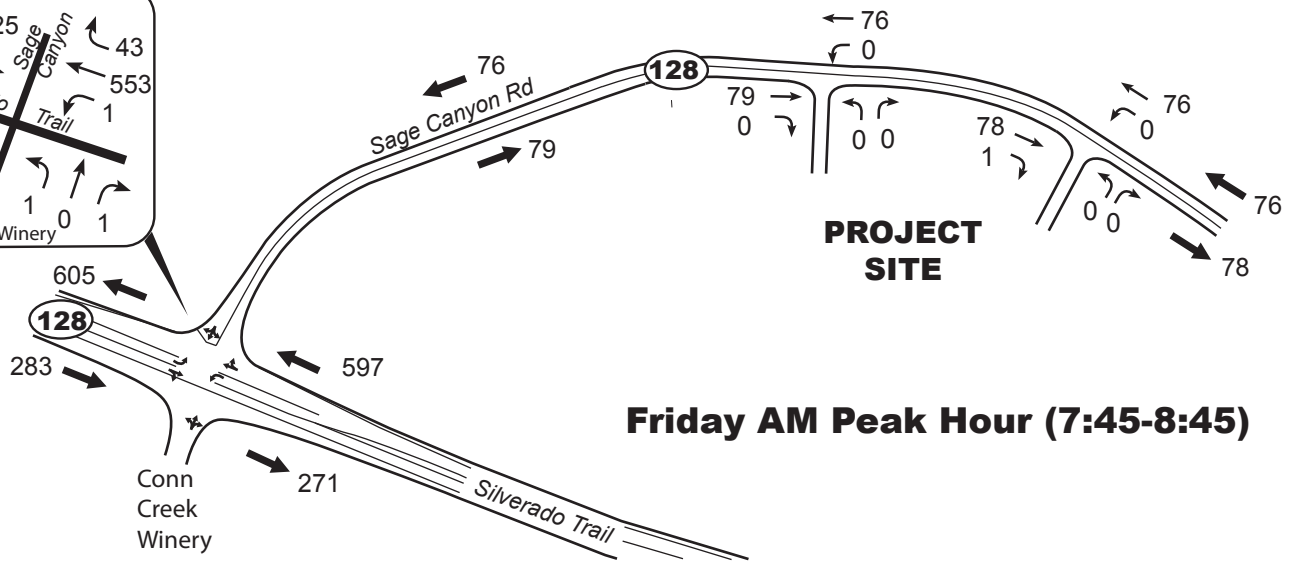
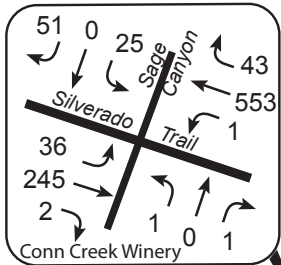
Percent grapes imported to the site coming from the north on Silverado Trail: 38%

Percent grapes imported to the site coming from the south on Silverado Trail: 60%

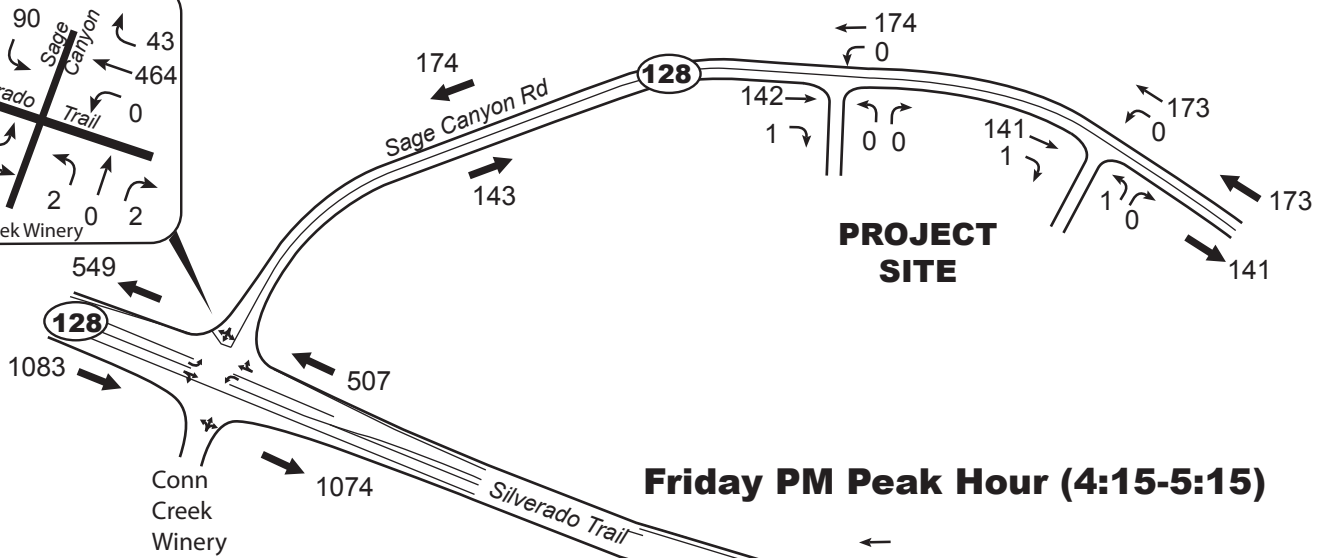
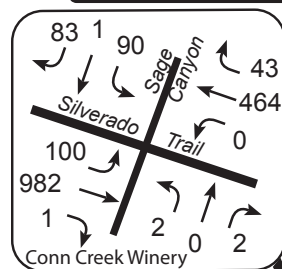
Percent grapes imported to the site coming from the west on SR 128: 0%

MARKETING EVENTS

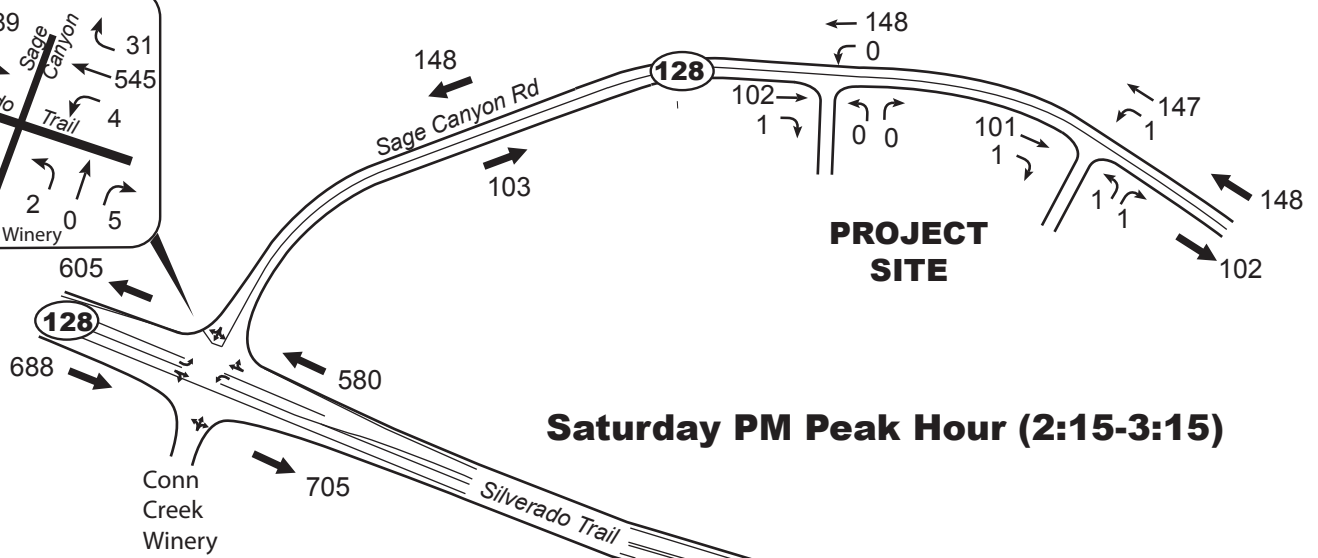
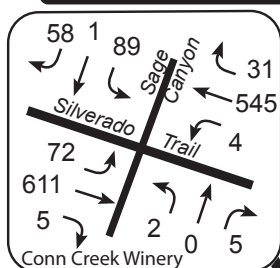
Wine releases – # events/year: 2
people/event: 40
typical days: Weekends
typical start time: between 10:00 AM & 6:00 PM but avoiding
adding traffic to Silverado Trail during peak traffic periods.



Friday AM Peak Hour (7:45-8:45)



Friday PM Peak Hour (4:15-5:15)



Saturday PM Peak Hour (2:15-3:15)

Dakota Shy Winery Traffic Study

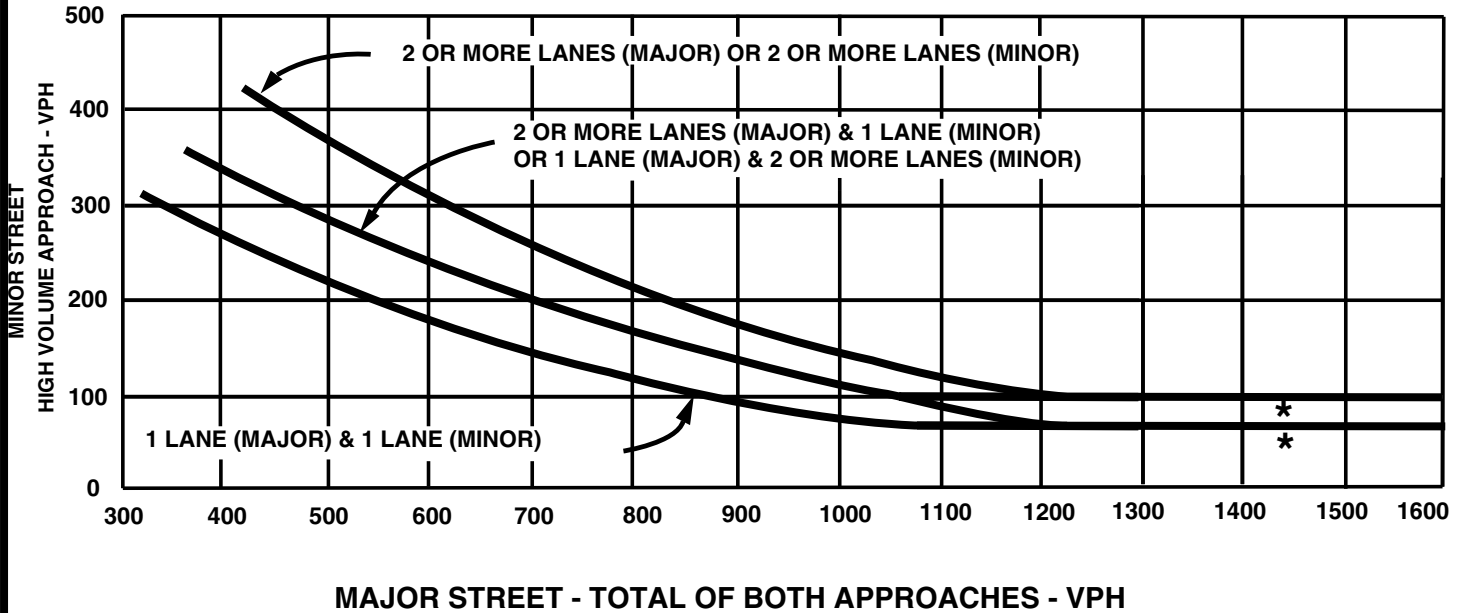
**Appendix Figure 1
January 2015 AM and May 2014 PM &
Saturday Peak Hour Volumes**



CRANE TRANSPORTATION GROUP

Appendix

**PEAK HOUR VOLUME WARRANT #3
(Rural Area)**



*** NOTE**

100 VPH APPLIES AS THE LOWER THRESHOLD VOLUME FOR A MINOR STREET APPROACH WITH TWO OR MORE LANES AND 75 VPH APPLIES AS THE LOWER THRESHOLD VOLUME FOR A MINOR STREET APPROACHING WITH ONE LANE

Source: California Manual on Uniform Traffic Control Devices, 2010

TECHNICAL APPENDIX

Capacity Worksheets

HCM Worksheets

TWO-WAY STOP CONTROL SUMMARY

Analyst: DRR
 Agency/Co.: CTG
 Date Performed: 05/02/2015
 Analysis Time Period: Harvest Friday AM Peak Hour
 Intersection: Silverado Trail/Sage Canyon Rd
 Jurisdiction: Napa Co
 Units: U. S. Customary
 Analysis Year: 2020 without Project
 Project ID: Dakota Shy
 East/West Street: Sage Canyon Rd
 North/South Street: Silverado Trail
 Intersection Orientation: NS Study period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street:	Approach Movement	Northbound				Southbound		
		1 L	2 T	3 R	4 L	5 T	6 R	
Volume		1	763	60	46	294	2	
Peak-Hour Factor, PHF		0.91	0.91	0.91	0.87	0.87	0.87	
Hourly Flow Rate, HFR		1	838	65	52	337	2	
Percent Heavy Vehicles		0	--	--	1	--	--	
Median Type/Storage		Undivided				/		
RT Channelized?								
Lanes		1	1	0		1	1	0
Configuration		L		TR		L	TR	
Upstream Signal?		No				No		

Minor Street:	Approach Movement	Westbound				Eastbound		
		7 L	8 T	9 R	10 L	11 T	12 R	
Volume		34	0	69	1	0	1	
Peak Hour Factor, PHF		0.95	0.95	0.95	0.25	0.25	0.25	
Hourly Flow Rate, HFR		35	0	72	4	0	4	
Percent Heavy Vehicles		1	0	1	0	0	0	
Percent Grade (%)		0				0		
Flared Approach: Exists?/Storage				Yes	/1	No /		
Lanes		0	1	0		0	1	0
Configuration		LTR				LTR		

Delay, Queue Length, and Level of Service

Approach Movement	NB 1	SB 4	Westbound			Eastbound		
			7	8	9	10	11	12
Lane Config	L	L		LTR			LTR	
v (vph)	1	52		107			8	
C(m) (vph)	1231	757		388			171	
v/c	0.00	0.07		0.28			0.05	
95% queue length	0.00	0.22		1.11			0.15	
Control Delay	7.9	10.1		26.3			27.1	
LOS	A	B		D			D	
Approach Delay				26.3			27.1	
Approach LOS				D			D	

----- TWO-WAY STOP CONTROL SUMMARY -----

Analyst: DRR
 Agency/Co.: CTG
 Date Performed: 05/02/2015
 Analysis Time Period: Harvest Friday AM Peak Hour
 Intersection: Silverado Trail/Sage Canyon Rd
 Jurisdiction: Napa Co
 Units: U. S. Customary
 Analysis Year: 2020 with Project
 Project ID: Dakota Shy
 East/West Street: Sage Canyon Rd
 North/South Street: Silverado Trail
 Intersection Orientation: NS Study period (hrs): 0.25

----- Vehicle Volumes and Adjustments -----

Major Street:	Approach Movement	Northbound				Southbound		
		1 L	2 T	3 R	4 L	5 T	6 R	
Volume		1	763	61	46	294	2	
Peak-Hour Factor, PHF		0.91	0.91	0.91	0.87	0.87	0.87	
Hourly Flow Rate, HFR		1	838	67	52	337	2	
Percent Heavy Vehicles		0	--	--	1	--	--	
Median Type/Storage		Undivided				/		
RT Channelized?								
Lanes		1	1	0		1	1	0
Configuration		L		TR		L	TR	
Upstream Signal?		No				No		

Minor Street:	Approach Movement	Westbound				Eastbound		
		7 L	8 T	9 R	10 L	11 T	12 R	
Volume		35	0	69	1	0	1	
Peak Hour Factor, PHF		0.95	0.95	0.95	0.25	0.25	0.25	
Hourly Flow Rate, HFR		36	0	72	4	0	4	
Percent Heavy Vehicles		1	0	1	0	0	0	
Percent Grade (%)		0				0		
Flared Approach: Exists?/Storage				Yes	/1	No /		
Lanes		0	1	0		0	1	0
Configuration		LTR				LTR		

----- Delay, Queue Length, and Level of Service -----

Approach	NB	SB	Westbound			Eastbound				
			7	8	9	10	11	12		
Movement	1	4		7	8	9		10	11	12
Lane Config	L	L		LTR				LTR		
v (vph)	1	52		108				8		
C(m) (vph)	1231	756		381				169		
v/c	0.00	0.07		0.28				0.05		
95% queue length	0.00	0.22		1.15				0.15		
Control Delay	7.9	10.1		26.7				27.4		
LOS	A	B		D				D		
Approach Delay				26.7				27.4		
Approach LOS				D				D		

TWO-WAY STOP CONTROL SUMMARY

Analyst: DRR
 Agency/Co.: CTG
 Date Performed: 15/06/2014
 Analysis Time Period: PM Peak Hour
 Intersection: Silverado Trail/Sage Canyon
 Jurisdiction: Napa Co
 Units: U. S. Customary
 Analysis Year: 2020 Harvest w-o Project
 Project ID: Dakota Shy Winery
 East/West Street: Sage Canyon
 North/South Street: Silverado Trail
 Intersection Orientation: NS Study period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street:	Approach Movement	Northbound				Southbound		
		1 L	2 T	3 R	4 L	5 T	6 R	
Volume		0	494	49	144	1155	1	
Peak-Hour Factor, PHF		0.90	0.90	0.90	0.93	0.93	0.93	
Hourly Flow Rate, HFR		0	548	54	154	1241	1	
Percent Heavy Vehicles		0	--	--	1	--	--	
Median Type/Storage RT Channelized?		Undivided				/		
Lanes		1	1	0		1	1	0
Configuration		L		TR		L	TR	
Upstream Signal?		No				No		

Minor Street:	Approach Movement	Westbound				Eastbound			
		7 L	8 T	9 R	10 L	11 T	12 R		
Volume		94	1	88	2	0	3		
Peak Hour Factor, PHF		0.70	0.70	0.70	0.33	0.33	0.33		
Hourly Flow Rate, HFR		134	1	125	6	0	9		
Percent Heavy Vehicles		1	0	1	0	0	0		
Percent Grade (%)		0				0			
Flared Approach: Exists?/Storage						Yes	/1	No	/
Lanes		0	1	0		0	1	0	
Configuration		LTR				LTR			

Delay, Queue Length, and Level of Service

Approach Movement	NB	SB	Westbound			Eastbound		
			7	8	9	10	11	12
Lane Config	L	L		LTR		LTR		
v (vph)	0	154		260		15		
C(m) (vph)	568	980		55		48		
v/c	0.00	0.16		4.73		0.31		
95% queue length	0.00	0.56		28.99		1.08		
Control Delay	11.3	9.4		1827		111.0		
LOS	B	A		F		F		
Approach Delay				1827		111.0		
Approach LOS				F		F		

----- TWO-WAY STOP CONTROL SUMMARY -----

Analyst: DRR
 Agency/Co.: CTG
 Date Performed: 15/06/2014
 Analysis Time Period: PM Peak Hour
 Intersection: Silverado Trail/Sage Canyon
 Jurisdiction: Napa Co
 Units: U. S. Customary
 Analysis Year: 2020 Harvest with Project
 Project ID: Dakota Shy Winery
 East/West Street: Sage Canyon
 North/South Street: Silverado Trail
 Intersection Orientation: NS Study period (hrs): 0.25

----- Vehicle Volumes and Adjustments -----

Major Street:	Approach Movement	Northbound				Southbound		
		1 L	2 T	3 R	4 	5 L	6 T	7 R
Volume		0	494	50		144	1155	1
Peak-Hour Factor, PHF		0.90	0.90	0.90		0.93	0.93	0.93
Hourly Flow Rate, HFR		0	548	55		154	1241	1
Percent Heavy Vehicles		0	--	--		1	--	--
Median Type/Storage		Undivided				/		
RT Channelized?								
Lanes		1	1	0		1	1	0
Configuration		L		TR		L		TR
Upstream Signal?		No				No		

Minor Street:	Approach Movement	Westbound				Eastbound		
		7 L	8 T	9 R	10 	11 L	12 T	13 R
Volume		94	1	89		2	0	3
Peak Hour Factor, PHF		0.70	0.70	0.70		0.33	0.33	0.33
Hourly Flow Rate, HFR		134	1	127		6	0	9
Percent Heavy Vehicles		1	0	1		0	0	0
Percent Grade (%)		0				0		
Flared Approach: Exists?/Storage		Yes				/1 No /		
Lanes		0	1	0		0	1	0
Configuration		LTR				LTR		

----- Delay, Queue Length, and Level of Service -----

Approach Movement	NB	SB	Westbound			Eastbound		
			7	8	9	10	11	12
Lane Config	L	L		LTR		LTR		
v (vph)	0	154		262		15		
C(m) (vph)	568	979		55		48		
v/c	0.00	0.16		4.76		0.31		
95% queue length	0.00	0.56		29.24		1.08		
Control Delay	11.3	9.4		1843		111.0		
LOS	B	A		F		F		
Approach Delay				1843		111.0		
Approach LOS				F		F		

----- TWO-WAY STOP CONTROL SUMMARY -----

Analyst: DRR
 Agency/Co.: CTG
 Date Performed: 15/06/2014
 Analysis Time Period: Saturday PM Peak
 Intersection: Silverado Trail/Sage Canyon
 Jurisdiction: Napa Co
 Units: U. S. Customary
 Analysis Year: 2020 Harvest w-o Project
 Project ID: Dakota Shy
 East/West Street: Sage Canyon
 North/South Street: Silverado Trail
 Intersection Orientation: NS Study period (hrs): 0.25

----- Vehicle Volumes and Adjustments -----

Major Street:	Approach Movement	Northbound				Southbound		
		1 L	2 T	3 R	4 	5 L	6 T	7 R
Volume		6	621	34	88	700	6	
Peak-Hour Factor, PHF		0.83	0.83	0.83	0.92	0.92	0.92	
Hourly Flow Rate, HFR		7	748	40	95	760	6	
Percent Heavy Vehicles		0	--	--	0	--	--	
Median Type/Storage		Undivided				/		
RT Channelized?								
Lanes		1	1	0		1	1	0
Configuration		L		TR		L	TR	
Upstream Signal?		No				No		

Minor Street:	Approach Movement	Westbound				Eastbound		
		7 L	8 T	9 R	10 	11 L	12 T	13 R
Volume		97	1	77	2	0	6	
Peak Hour Factor, PHF		0.84	0.84	0.84	0.44	0.44	0.44	
Hourly Flow Rate, HFR		115	1	91	4	0	13	
Percent Heavy Vehicles		0	0	0	0	0	0	
Percent Grade (%)		0				0		
Flared Approach: Exists?/Storage				Yes	/1			No /
Lanes		0	1	0		0	1	0
Configuration		LTR				LTR		

----- Delay, Queue Length, and Level of Service -----

Approach	NB	SB	Westbound			Eastbound				
			7	8	9	10	11	12		
Movement	1	4		7	8	9		10	11	12
Lane Config	L	L		LTR				LTR		
v (vph)	7	95		207				17		
C(m) (vph)	856	840		99				141		
v/c	0.01	0.11		2.09				0.12		
95% queue length	0.02	0.38		17.85				0.40		
Control Delay	9.2	9.8		594.2				34.0		
LOS	A	A		F				D		
Approach Delay				594.2				34.0		
Approach LOS				F				D		

TWO-WAY STOP CONTROL SUMMARY

Analyst: DRR
 Agency/Co.: CTG
 Date Performed: 15/06/2014
 Analysis Time Period: Saturday PM Peak
 Intersection: Silverado Trail/Sage Canyon
 Jurisdiction: Napa Co
 Units: U. S. Customary
 Analysis Year: 2020 Harvest with Project
 Project ID: Dakota Shy
 East/West Street: Sage Canyon
 North/South Street: Silverado Trail
 Intersection Orientation: NS Study period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street:	Approach Movement	Northbound				Southbound		
		1 L	2 T	3 R	4 L	5 T	6 R	
Volume		6	621	35	89	700	6	
Peak-Hour Factor, PHF		0.83	0.83	0.83	0.92	0.92	0.92	
Hourly Flow Rate, HFR		7	748	42	96	760	6	
Percent Heavy Vehicles		0	--	--	0	--	--	
Median Type/Storage		Undivided				/		
RT Channelized?								
Lanes		1	1	0		1	1	0
Configuration		L		TR		L	TR	
Upstream Signal?		No				No		

Minor Street:	Approach Movement	Westbound				Eastbound		
		7 L	8 T	9 R	10 L	11 T	12 R	
Volume		98	1	77	2	0	6	
Peak Hour Factor, PHF		0.84	0.84	0.84	0.44	0.44	0.44	
Hourly Flow Rate, HFR		116	1	91	4	0	13	
Percent Heavy Vehicles		0	0	0	0	0	0	
Percent Grade (%)		0				0		
Flared Approach: Exists?/Storage				Yes	/1	No /		
Lanes		0	1	0		0	1	0
Configuration		LTR				LTR		

Delay, Queue Length, and Level of Service

Approach Movement	NB 1 L	SB 4 L	Westbound			Eastbound		
			7 	8 LTR	9 	10 	11 LTR	12
v (vph)	7	96	208			17		
C(m) (vph)	856	839	97			141		
v/c	0.01	0.11	2.14			0.12		
95% queue length	0.02	0.39	18.17			0.40		
Control Delay	9.2	9.8	619.1			34.0		
LOS	A	A	F			D		
Approach Delay			619.1			34.0		
Approach LOS			F			D		

TWO-WAY STOP CONTROL SUMMARY

Analyst: DRR
 Agency/Co.: CTG
 Date Performed: 05/02/2015
 Analysis Time Period: Summer Friday AM Peak Hour
 Intersection: Silverado Trail/Sage Canyon Rd
 Jurisdiction: Napa Co
 Units: U. S. Customary
 Analysis Year: 2020 without Project
 Project ID: Dakota Shy
 East/West Street: Sage Canyon Rd
 North/South Street: Silverado Trail
 Intersection Orientation: NS Study period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street:	Approach Movement	Northbound				Southbound		
		1 L	2 T	3 R	4 L	5 T	6 R	
Volume		1	756	59	46	291	2	
Peak-Hour Factor, PHF		0.91	0.91	0.91	0.87	0.87	0.87	
Hourly Flow Rate, HFR		1	830	64	52	334	2	
Percent Heavy Vehicles		0	--	--	1	--	--	
Median Type/Storage		Undivided				/		
RT Channelized?								
Lanes		1	1	0		1	1	0
Configuration		L		TR		L	TR	
Upstream Signal?		No				No		

Minor Street:	Approach Movement	Westbound				Eastbound		
		7 L	8 T	9 R	10 L	11 T	12 R	
Volume		34	0	68	1	0	1	
Peak Hour Factor, PHF		0.95	0.95	0.95	0.25	0.25	0.25	
Hourly Flow Rate, HFR		35	0	71	4	0	4	
Percent Heavy Vehicles		1	0	1	0	0	0	
Percent Grade (%)		0				0		
Flared Approach: Exists?/Storage				Yes	/1	No /		
Lanes		0	1	0		0	1	0
Configuration		LTR				LTR		

Delay, Queue Length, and Level of Service

Approach Movement	NB 1 L	SB 4 L	Westbound			Eastbound		
			7 	8 LTR	9 	10 	11 LTR	12
v (vph)	1	52	106			8		
C(m) (vph)	1235	763	394			174		
v/c	0.00	0.07	0.27			0.05		
95% queue length	0.00	0.22	1.07			0.14		
Control Delay	7.9	10.1	25.9			26.7		
LOS	A	B	D			D		
Approach Delay			25.9			26.7		
Approach LOS			D			D		

----- TWO-WAY STOP CONTROL SUMMARY -----

Analyst: DRR
 Agency/Co.: CTG
 Date Performed: 05/02/2015
 Analysis Time Period: Summer Friday AM Peak Hour
 Intersection: Silverado Trail/Sage Canyon Rd
 Jurisdiction: Napa Co
 Units: U. S. Customary
 Analysis Year: 2020 with Project
 Project ID: Dakota Shy
 East/West Street: Sage Canyon Rd
 North/South Street: Silverado Trail
 Intersection Orientation: NS Study period (hrs): 0.25

----- Vehicle Volumes and Adjustments -----

Major Street:	Approach Movement	Northbound				Southbound		
		1 L	2 T	3 R	4 L	5 T	6 R	
Volume		1	756	60	46	291	2	
Peak-Hour Factor, PHF		0.91	0.91	0.91	0.87	0.87	0.87	
Hourly Flow Rate, HFR		1	830	65	52	334	2	
Percent Heavy Vehicles		0	--	--	1	--	--	
Median Type/Storage		Undivided				/		
RT Channelized?								
Lanes		1	1	0		1	1	0
Configuration		L		TR		L	TR	
Upstream Signal?		No				No		

Minor Street:	Approach Movement	Westbound				Eastbound		
		7 L	8 T	9 R	10 L	11 T	12 R	
Volume		34	0	68	1	0	1	
Peak Hour Factor, PHF		0.95	0.95	0.95	0.25	0.25	0.25	
Hourly Flow Rate, HFR		35	0	71	4	0	4	
Percent Heavy Vehicles		1	0	1	0	0	0	
Percent Grade (%)		0				0		
Flared Approach: Exists?/Storage				Yes	/1	No /		
Lanes		0	1	0		0	1	0
Configuration		LTR				LTR		

----- Delay, Queue Length, and Level of Service -----

Approach Movement	NB 1 L	SB 4 L	Westbound			Eastbound		
			7 	8 LTR	9 	10 	11 LTR	12
v (vph)	1	52	106			8		
C(m) (vph)	1235	762	394			174		
v/c	0.00	0.07	0.27			0.05		
95% queue length	0.00	0.22	1.07			0.14		
Control Delay	7.9	10.1	25.9			26.7		
LOS	A	B	D			D		
Approach Delay			25.9			26.7		
Approach LOS			D			D		

TWO-WAY STOP CONTROL SUMMARY

Analyst: DRR
 Agency/Co.: CTG
 Date Performed: 15/06/2014
 Analysis Time Period: PM Peak Hour
 Intersection: Silverado Trail/Sage Canyon
 Jurisdiction: Napa Co
 Units: U. S. Customary
 Analysis Year: 2020 Summer w-o Project
 Project ID: Dakota Shy Winery
 East/West Street: Sage Canyon
 North/South Street: Silverado Trail
 Intersection Orientation: NS Study period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street:	Approach Movement	Northbound				Southbound		
		1 L	2 T	3 R	4 L	5 T	6 R	
Volume		0	489	48	143	1144	1	
Peak-Hour Factor, PHF		0.90	0.90	0.90	0.93	0.93	0.93	
Hourly Flow Rate, HFR		0	543	53	153	1230	1	
Percent Heavy Vehicles		0	--	--	1	--	--	
Median Type/Storage		Undivided				/		
RT Channelized?								
Lanes		1	1	0		1	1	0
Configuration		L		TR		L	TR	
Upstream Signal?		No				No		

Minor Street:	Approach Movement	Westbound				Eastbound			
		7 L	8 T	9 R	10 L	11 T	12 R		
Volume		93	1	87	2	0	3		
Peak Hour Factor, PHF		0.70	0.70	0.70	0.33	0.33	0.33		
Hourly Flow Rate, HFR		132	1	124	6	0	9		
Percent Heavy Vehicles		1	0	1	0	0	0		
Percent Grade (%)		0				0			
Flared Approach: Exists?/Storage						Yes	/1	No	/
Lanes		0	1	0		0	1	0	
Configuration		LTR				LTR			

Delay, Queue Length, and Level of Service

Approach Movement	NB	SB	Westbound			Eastbound		
			7	8	9	10	11	12
Lane Config	L	L		LTR		LTR		
v (vph)	0	153		257		15		
C(m) (vph)	573	985		57		48		
v/c	0.00	0.16		4.51		0.31		
95% queue length	0.00	0.55		28.39		1.08		
Control Delay	11.3	9.3		1724		111.0		
LOS	B	A		F		F		
Approach Delay				1724		111.0		
Approach LOS				F		F		

----- TWO-WAY STOP CONTROL SUMMARY -----

Analyst: DRR
 Agency/Co.: CTG
 Date Performed: 15/06/2014
 Analysis Time Period: PM Peak Hour
 Intersection: Silverado Trail/Sage Canyon
 Jurisdiction: Napa Co
 Units: U. S. Customary
 Analysis Year: 2020 Summer with Project
 Project ID: Dakota Shy Winery
 East/West Street: Sage Canyon
 North/South Street: Silverado Trail
 Intersection Orientation: NS Study period (hrs): 0.25

----- Vehicle Volumes and Adjustments -----

Major Street:	Approach Movement	Northbound				Southbound		
		1 L	2 T	3 R	4 L	5 T	6 R	
Volume		0	489	49	143	1144	1	
Peak-Hour Factor, PHF		0.90	0.90	0.90	0.93	0.93	0.93	
Hourly Flow Rate, HFR		0	543	54	153	1230	1	
Percent Heavy Vehicles		0	--	--	1	--	--	
Median Type/Storage		Undivided				/		
RT Channelized?								
Lanes		1	1	0		1	1	0
Configuration		L		TR		L	TR	
Upstream Signal?		No				No		

Minor Street:	Approach Movement	Westbound				Eastbound			
		7 L	8 T	9 R	10 L	11 T	12 R		
Volume		93	1	88	2	0	3		
Peak Hour Factor, PHF		0.70	0.70	0.70	0.33	0.33	0.33		
Hourly Flow Rate, HFR		132	1	125	6	0	9		
Percent Heavy Vehicles		1	0	1	0	0	0		
Percent Grade (%)		0				0			
Flared Approach: Exists?/Storage						Yes	/1	No	/
Lanes		0	1	0		0	1	0	
Configuration		LTR				LTR			

----- Delay, Queue Length, and Level of Service -----

Approach Movement	NB	SB	Westbound			Eastbound		
			7	8	9	10	11	12
Lane Config	L	L		LTR		LTR		
v (vph)	0	153		258		15		
C(m) (vph)	573	985		57		48		
v/c	0.00	0.16		4.53		0.31		
95% queue length	0.00	0.55		28.52		1.08		
Control Delay	11.3	9.3		1732		111.0		
LOS	B	A		F		F		
Approach Delay				1732		111.0		
Approach LOS				F		F		

TWO-WAY STOP CONTROL SUMMARY

Analyst: DRR
 Agency/Co.: CTG
 Date Performed: 15/06/2014
 Analysis Time Period: Saturday PM Peak
 Intersection: Silverado Trail/Sage Canyon
 Jurisdiction: Napa Co
 Units: U. S. Customary
 Analysis Year: 2020 Summer w-o Project
 Project ID: Dakota Shy
 East/West Street: Sage Canyon
 North/South Street: Silverado Trail
 Intersection Orientation: NS Study period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street:	Approach Movement	Northbound				Southbound		
		1 L	2 T	3 R	4 L	5 T	6 R	
Volume		6	609	33	86	686	6	
Peak-Hour Factor, PHF		0.83	0.83	0.83	0.92	0.92	0.92	
Hourly Flow Rate, HFR		7	733	39	93	745	6	
Percent Heavy Vehicles		0	--	--	0	--	--	
Median Type/Storage		Undivided				/		
RT Channelized?								
Lanes		1	1	0		1	1	0
Configuration		L		TR		L	TR	
Upstream Signal?		No				No		

Minor Street:	Approach Movement	Westbound				Eastbound			
		7 L	8 T	9 R	10 L	11 T	12 R		
Volume		95	1	75	2	0	6		
Peak Hour Factor, PHF		0.84	0.84	0.84	0.44	0.44	0.44		
Hourly Flow Rate, HFR		113	1	89	4	0	13		
Percent Heavy Vehicles		0	0	0	0	0	0		
Percent Grade (%)		0				0			
Flared Approach: Exists?/Storage						Yes	/1	No	/
Lanes		0	1	0		0	1	0	
Configuration		LTR				LTR			

Delay, Queue Length, and Level of Service

Approach Movement	NB 1	SB 4	Westbound			Eastbound		
			7	8	9	10	11	12
Lane Config	L	L		LTR		LTR		
v (vph)	7	93		203		17		
C(m) (vph)	868	852		103		148		
v/c	0.01	0.11		1.97		0.11		
95% queue length	0.02	0.37		16.98		0.38		
Control Delay	9.2	9.7		539.0		32.5		
LOS	A	A		F		D		
Approach Delay				539.0		32.5		
Approach LOS				F		D		

TWO-WAY STOP CONTROL SUMMARY

Analyst: DRR
 Agency/Co.: CTG
 Date Performed: 15/06/2014
 Analysis Time Period: Saturday PM Peak
 Intersection: Silverado Trail/Sage Canyon
 Jurisdiction: Napa Co
 Units: U. S. Customary
 Analysis Year: 2020 Summer with Project
 Project ID: Dakota Shy
 East/West Street: Sage Canyon
 North/South Street: Silverado Trail
 Intersection Orientation: NS Study period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street:	Approach Movement	Northbound				Southbound	
		1 L	2 T	3 R	4 L	5 T	6 R
Volume		6	609	34	87	686	6
Peak-Hour Factor, PHF		0.83	0.83	0.83	0.92	0.92	0.92
Hourly Flow Rate, HFR		7	733	40	94	745	6
Percent Heavy Vehicles		0	--	--	0	--	--
Median Type/Storage		Undivided				/	
RT Channelized?							
Lanes		1	1	0		1	1
Configuration		L		TR		L	TR
Upstream Signal?		No				No	

Minor Street:	Approach Movement	Westbound				Eastbound	
		7 L	8 T	9 R	10 L	11 T	12 R
Volume		96	1	75	2	0	6
Peak Hour Factor, PHF		0.84	0.84	0.84	0.44	0.44	0.44
Hourly Flow Rate, HFR		114	1	89	4	0	13
Percent Heavy Vehicles		0	0	0	0	0	0
Percent Grade (%)		0				0	
Flared Approach: Exists?/Storage				Yes	/1	No /	
Lanes		0	1	0		0	1
Configuration		LTR				LTR	

Delay, Queue Length, and Level of Service

Approach Movement	NB 1 L	SB 4 L	Westbound			Eastbound		
			7 	8 LTR	9 	10 	11 LTR	12
v (vph)	7	94	204			17		
C(m) (vph)	868	851	103			148		
v/c	0.01	0.11	1.98			0.11		
95% queue length	0.02	0.37	17.10			0.38		
Control Delay	9.2	9.8	543.1			32.5		
LOS	A	A	F			D		
Approach Delay			543.1			32.5		
Approach LOS			F			D		

TWO-WAY STOP CONTROL SUMMARY

Analyst: DRR
 Agency/Co.: CTG
 Date Performed: 05/02/2015
 Analysis Time Period: Harvest Friday AM Peak Hour
 Intersection: Silverado Trail/Sage Canyon Rd
 Jurisdiction: Napa Co
 Units: U. S. Customary
 Analysis Year: 2030 without Project
 Project ID: Dakota Shy
 East/West Street: Sage Canyon Rd
 North/South Street: Silverado Trail
 Intersection Orientation: NS Study period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street:	Approach Movement	Northbound				Southbound		
		1 L	2 T	3 R	4 L	5 T	6 R	
Volume		1	951	75	50	322	2	
Peak-Hour Factor, PHF		0.93	0.93	0.93	0.87	0.87	0.87	
Hourly Flow Rate, HFR		1	1022	80	57	370	2	
Percent Heavy Vehicles		0	--	--	1	--	--	
Median Type/Storage		Undivided				/		
RT Channelized?								
Lanes		1	1	0		1	1	0
Configuration		L		TR		L	TR	
Upstream Signal?		No				No		

Minor Street:	Approach Movement	Westbound				Eastbound		
		7 L	8 T	9 R	10 L	11 T	12 R	
Volume		41	0	82	1	0	1	
Peak Hour Factor, PHF		0.95	0.95	0.95	0.25	0.25	0.25	
Hourly Flow Rate, HFR		43	0	86	4	0	4	
Percent Heavy Vehicles		1	0	1	0	0	0	
Percent Grade (%)		0				0		
Flared Approach: Exists?/Storage				Yes	/1	No /		
Lanes		0	1	0		0	1	0
Configuration		LTR				LTR		

Delay, Queue Length, and Level of Service

Approach Movement	NB 1	SB 4	Westbound			Eastbound		
			7	8	9	10	11	12
Lane Config	L	L		LTR		LTR		
v (vph)	1	57		129		8		
C(m) (vph)	1198	637		208		103		
v/c	0.00	0.09		0.62		0.08		
95% queue length	0.00	0.29		3.59		0.25		
Control Delay	8.0	11.2		47.0		42.9		
LOS	A	B		E		E		
Approach Delay				47.0		42.9		
Approach LOS				E		E		

TWO-WAY STOP CONTROL SUMMARY

Analyst: DRR
 Agency/Co.: CTG
 Date Performed: 05/02/2015
 Analysis Time Period: Harvest Friday AM Peak Hour
 Intersection: Silverado Trail/Sage Canyon Rd
 Jurisdiction: Napa Co
 Units: U. S. Customary
 Analysis Year: 2030 with Project
 Project ID: Dakota Shy
 East/West Street: Sage Canyon Rd
 North/South Street: Silverado Trail
 Intersection Orientation: NS Study period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street:	Approach Movement	Northbound				Southbound		
		1 L	2 T	3 R	4 L	5 T	6 R	
Volume		1	951	76	50	322	2	
Peak-Hour Factor, PHF		0.93	0.93	0.93	0.87	0.87	0.87	
Hourly Flow Rate, HFR		1	1022	81	57	370	2	
Percent Heavy Vehicles		0	--	--	1	--	--	
Median Type/Storage		Undivided				/		
RT Channelized?								
Lanes		1	1	0		1	1	0
Configuration		L		TR		L	TR	
Upstream Signal?		No				No		

Minor Street:	Approach Movement	Westbound				Eastbound		
		7 L	8 T	9 R	10 L	11 T	12 R	
Volume		42	0	82	1	0	1	
Peak Hour Factor, PHF		0.95	0.95	0.95	0.25	0.25	0.25	
Hourly Flow Rate, HFR		44	0	86	4	0	4	
Percent Heavy Vehicles		1	0	1	0	0	0	
Percent Grade (%)		0				0		
Flared Approach: Exists?/Storage				Yes	/1	No /		
Lanes		0	1	0		0	1	0
Configuration		LTR				LTR		

Delay, Queue Length, and Level of Service

Approach Movement	NB	SB	Westbound			Eastbound		
			7	8	9	10	11	12
Lane Config	L	L		LTR		LTR		
v (vph)	1	57		130		8		
C(m) (vph)	1198	637		206		102		
v/c	0.00	0.09		0.63		0.08		
95% queue length	0.00	0.29		3.69		0.25		
Control Delay	8.0	11.2		48.3		43.3		
LOS	A	B		E		E		
Approach Delay				48.3		43.3		
Approach LOS				E		E		

TWO-WAY STOP CONTROL SUMMARY

Analyst: DRR
 Agency/Co.: CTG
 Date Performed: 15/06/2014
 Analysis Time Period: PM Peak Hour
 Intersection: Silverado Trail/Sage Canyon
 Jurisdiction: Napa Co
 Units: U. S. Customary
 Analysis Year: 2030 Harvest w-o Project
 Project ID: Dakota Shy Winery
 East/West Street: Sage Canyon
 North/South Street: Silverado Trail
 Intersection Orientation: NS Study period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street:	Approach Movement	Northbound				Southbound		
		1 L	2 T	3 R	4 L	5 T	6 R	
Volume		0	520	56	213	1392	2	
Peak-Hour Factor, PHF		0.90	0.90	0.90	0.95	0.95	0.95	
Hourly Flow Rate, HFR		0	577	62	224	1465	2	
Percent Heavy Vehicles		0	--	--	1	--	--	
Median Type/Storage RT Channelized?		Undivided				/		
Lanes Configuration		1 L	1 L	0 TR	1 L	1 L	0 TR	
Upstream Signal?		No				No		

Minor Street:	Approach Movement	Westbound				Eastbound		
		7 L	8 T	9 R	10 L	11 T	12 R	
Volume		96	2	91	3	0	3	
Peak Hour Factor, PHF		0.70	0.70	0.70	0.33	0.33	0.33	
Hourly Flow Rate, HFR		137	2	130	9	0	9	
Percent Heavy Vehicles		1	0	1	0	0	0	
Percent Grade (%)		0				0		
Flared Approach: Exists?/Storage		Yes				/1 No /		
Lanes Configuration		0	1 LTR	0	0	1 LTR	0	

Delay, Queue Length, and Level of Service

Approach Movement	NB 1 L	SB 4 L	Westbound			Eastbound		
			7 	8 LTR	9 	10 	11 LTR	12
v (vph)	0	224	269			18		
C(m) (vph)	466	950	28			19		
v/c	0.00	0.24	9.61			0.95		
95% queue length	0.00	0.92	33.17			2.54		
Control Delay	12.7	10.0-	4145			467.1		
LOS	B	A	F			F		
Approach Delay			4145			467.1		
Approach LOS			F			F		

-----TWO-WAY STOP CONTROL SUMMARY-----

Analyst: DRR
 Agency/Co.: CTG
 Date Performed: 15/06/2014
 Analysis Time Period: PM Peak Hour
 Intersection: Silverado Trail/Sage Canyon
 Jurisdiction: Napa Co
 Units: U. S. Customary
 Analysis Year: 2030 Harvest with Project
 Project ID: Dakota Shy Winery
 East/West Street: Sage Canyon
 North/South Street: Silverado Trail
 Intersection Orientation: NS Study period (hrs): 0.25

-----Vehicle Volumes and Adjustments-----

Major Street:	Approach Movement	Northbound				Southbound		
		1 L	2 T	3 R	4 L	5 T	6 R	
Volume		0	520	57	213	1392	2	
Peak-Hour Factor, PHF		0.90	0.90	0.90	0.95	0.95	0.95	
Hourly Flow Rate, HFR		0	577	63	224	1465	2	
Percent Heavy Vehicles		0	--	--	1	--	--	
Median Type/Storage RT Channelized?		Undivided				/		
Lanes Configuration		1 L	1 L	0 TR		1 L	1 TR	
Upstream Signal?		No				No		

Minor Street:	Approach Movement	Westbound				Eastbound		
		7 L	8 T	9 R	10 L	11 T	12 R	
Volume		96	2	92	3	0	3	
Peak Hour Factor, PHF		0.70	0.70	0.70	0.33	0.33	0.33	
Hourly Flow Rate, HFR		137	2	131	9	0	9	
Percent Heavy Vehicles		1	0	1	0	0	0	
Percent Grade (%)		0				0		
Flared Approach: Exists?/Storage		Yes				/1 No /		
Lanes Configuration		0	1 LTR	0		0 LTR	1 LTR	

-----Delay, Queue Length, and Level of Service-----

Approach Movement	NB	SB	Westbound			Eastbound		
			7	8	9	10	11	12
Lane Config	L	L		LTR		LTR		
v (vph)	0	224		270		18		
C(m) (vph)	466	949		28		19		
v/c	0.00	0.24		9.64		0.95		
95% queue length	0.00	0.92		33.29		2.54		
Control Delay	12.7	10.0-		4161		467.1		
LOS	B	A		F		F		
Approach Delay				4161		467.1		
Approach LOS				F		F		

TWO-WAY STOP CONTROL SUMMARY

Analyst: DRR
 Agency/Co.: CTG
 Date Performed: 15/06/2014
 Analysis Time Period: Saturday PM Peak
 Intersection: Silverado Trail/Sage Canyon
 Jurisdiction: Napa Co
 Units: U. S. Customary
 Analysis Year: 2030 Harvest w-o Project
 Project ID: Dakota Shy
 East/West Street: Sage Canyon
 North/South Street: Silverado Trail
 Intersection Orientation: NS Study period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street:	Approach Movement	Northbound				Southbound		
		1 L	2 T	3 R	4 L	5 T	6 R	
Volume		7	718	37	110	816	8	
Peak-Hour Factor, PHF		0.85	0.85	0.85	0.94	0.94	0.94	
Hourly Flow Rate, HFR		8	844	43	117	868	8	
Percent Heavy Vehicles		0	--	--	0	--	--	
Median Type/Storage		Undivided				/		
RT Channelized?								
Lanes		1	1	0	1	1	0	
Configuration		L		TR	L		TR	
Upstream Signal?		No				No		

Minor Street:	Approach Movement	Westbound				Eastbound		
		7 L	8 T	9 R	10 L	11 T	12 R	
Volume		105	2	106	3	0	7	
Peak Hour Factor, PHF		0.85	0.85	0.85	0.44	0.44	0.44	
Hourly Flow Rate, HFR		123	2	124	6	0	15	
Percent Heavy Vehicles		0	0	0	0	0	0	
Percent Grade (%)		0				0		
Flared Approach: Exists?/Storage				Yes	/1	No /		
Lanes		0	1	0	0	1	0	
Configuration		LTR			LTR			

Delay, Queue Length, and Level of Service

Approach Movement	NB 1 L	SB 4 L	Westbound			Eastbound		
			7 	8 LTR	9 	10 	11 LTR	12
v (vph)	8	117	249			21		
C(m) (vph)	779	772	69			69		
v/c	0.01	0.15	3.61			0.30		
95% queue length	0.03	0.53	26.08			1.11		
Control Delay	9.7	10.5	1299			78.5		
LOS	A	B	F			F		
Approach Delay			1299			78.5		
Approach LOS			F			F		

TWO-WAY STOP CONTROL SUMMARY

Analyst: DRR
 Agency/Co.: CTG
 Date Performed: 15/06/2014
 Analysis Time Period: Saturday PM Peak
 Intersection: Silverado Trail/Sage Canyon
 Jurisdiction: Napa Co
 Units: U. S. Customary
 Analysis Year: 2030 Harvest with Project
 Project ID: Dakota Shy
 East/West Street: Sage Canyon
 North/South Street: Silverado Trail
 Intersection Orientation: NS Study period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street:	Approach Movement	Northbound				Southbound		
		1 L	2 T	3 R	4 	5 L	6 T	7 R
Volume		7	718	38		111	816	8
Peak-Hour Factor, PHF		0.85	0.85	0.85		0.94	0.94	0.94
Hourly Flow Rate, HFR		8	844	44		118	868	8
Percent Heavy Vehicles		0	--	--		0	--	--
Median Type/Storage		Undivided				/		
RT Channelized?								
Lanes		1	1	0		1	1	0
Configuration		L		TR		L		TR
Upstream Signal?		No				No		

Minor Street:	Approach Movement	Westbound				Eastbound		
		7 L	8 T	9 R	10 	11 L	12 T	13 R
Volume		106	2	106		3	0	7
Peak Hour Factor, PHF		0.85	0.85	0.85		0.44	0.44	0.44
Hourly Flow Rate, HFR		124	2	124		6	0	15
Percent Heavy Vehicles		0	0	0		0	0	0
Percent Grade (%)		0				0		
Flared Approach: Exists?/Storage		Yes				/1		
Lanes		0	1	0		0	1	0
Configuration		LTR				LTR		

Delay, Queue Length, and Level of Service

Approach	NB	SB	Westbound			Eastbound				
			7	8	9	10	11	12		
Movement	1	4		7	8	9		10	11	12
Lane Config	L	L		LTR				LTR		
v (vph)	8	118		250				21		
C(m) (vph)	779	771		68				69		
v/c	0.01	0.15		3.68				0.30		
95% queue length	0.03	0.54		26.31				1.11		
Control Delay	9.7	10.5		1331				78.5		
LOS	A	B		F				F		
Approach Delay				1331				78.5		
Approach LOS				F				F		

----- TWO-WAY STOP CONTROL SUMMARY -----

Analyst: DRR
 Agency/Co.: CTG
 Date Performed: 05/02/2015
 Analysis Time Period: Summer Friday AM Peak Hour
 Intersection: Silverado Trail/Sage Canyon Rd
 Jurisdiction: Napa Co
 Units: U. S. Customary
 Analysis Year: 2030 without Project
 Project ID: Dakota Shy
 East/West Street: Sage Canyon Rd
 North/South Street: Silverado Trail
 Intersection Orientation: NS Study period (hrs): 0.25

----- Vehicle Volumes and Adjustments -----

Major Street:	Approach Movement	Northbound				Southbound		
		1 L	2 T	3 R	4 L	5 T	6 R	
Volume		1	942	74	49	319	2	
Peak-Hour Factor, PHF		0.93	0.93	0.93	0.87	0.87	0.87	
Hourly Flow Rate, HFR		1	1012	79	56	366	2	
Percent Heavy Vehicles		0	--	--	1	--	--	
Median Type/Storage		Undivided				/		
RT Channelized?								
Lanes		1	1	0		1	1	0
Configuration		L		TR		L	TR	
Upstream Signal?		No				No		

Minor Street:	Approach Movement	Westbound				Eastbound		
		7 L	8 T	9 R	10 L	11 T	12 R	
Volume		41	0	81	1	0	1	
Peak Hour Factor, PHF		0.95	0.95	0.95	0.25	0.25	0.25	
Hourly Flow Rate, HFR		43	0	85	4	0	4	
Percent Heavy Vehicles		1	0	1	0	0	0	
Percent Grade (%)		0				0		
Flared Approach: Exists?/Storage				Yes	/1	No /		
Lanes		0	1	0		0	1	0
Configuration		LTR				LTR		

----- Delay, Queue Length, and Level of Service -----

Approach Movement	NB 1	SB 4	Westbound			Eastbound		
			7	8	9	10	11	12
Lane Config	L	L		LTR			LTR	
v (vph)	1	56		128			8	
C(m) (vph)	1202	643		212			107	
v/c	0.00	0.09		0.60			0.07	
95% queue length	0.00	0.29		3.44			0.24	
Control Delay	8.0	11.1		44.9			41.3	
LOS	A	B		E			E	
Approach Delay				44.9			41.3	
Approach LOS				E			E	

----- TWO-WAY STOP CONTROL SUMMARY -----

Analyst: DRR
 Agency/Co.: CTG
 Date Performed: 05/02/2015
 Analysis Time Period: Summer Friday AM Peak Hour
 Intersection: Silverado Trail/Sage Canyon Rd
 Jurisdiction: Napa Co
 Units: U. S. Customary
 Analysis Year: 2030 with Project
 Project ID: Dakota Shy
 East/West Street: Sage Canyon Rd
 North/South Street: Silverado Trail
 Intersection Orientation: NS Study period (hrs): 0.25

----- Vehicle Volumes and Adjustments -----

Major Street:	Approach Movement	Northbound				Southbound		
		1 L	2 T	3 R	4 L	5 T	6 R	
Volume		1	942	75	50	319	2	
Peak-Hour Factor, PHF		0.93	0.93	0.93	0.87	0.87	0.87	
Hourly Flow Rate, HFR		1	1012	80	57	366	2	
Percent Heavy Vehicles		0	--	--	1	--	--	
Median Type/Storage		Undivided				/		
RT Channelized?								
Lanes		1	1	0		1	1	0
Configuration		L		TR		L	TR	
Upstream Signal?		No				No		

Minor Street:	Approach Movement	Westbound				Eastbound		
		7 L	8 T	9 R	10 L	11 T	12 R	
Volume		41	0	81	1	0	1	
Peak Hour Factor, PHF		0.95	0.95	0.95	0.25	0.25	0.25	
Hourly Flow Rate, HFR		43	0	85	4	0	4	
Percent Heavy Vehicles		1	0	1	0	0	0	
Percent Grade (%)		0				0		
Flared Approach: Exists?/Storage				Yes	/1	No /		
Lanes		0	1	0		0	1	0
Configuration		LTR				LTR		

----- Delay, Queue Length, and Level of Service -----

Approach Movement	NB 1	SB 4	Westbound			Eastbound		
			7	8	9	10	11	12
Lane Config	L	L		LTR		LTR		
v (vph)	1	57		128		8		
C(m) (vph)	1202	643		212		107		
v/c	0.00	0.09		0.60		0.07		
95% queue length	0.00	0.29		3.44		0.24		
Control Delay	8.0	11.1		44.9		41.3		
LOS	A	B		E		E		
Approach Delay				44.9		41.3		
Approach LOS				E		E		

TWO-WAY STOP CONTROL SUMMARY

Analyst: DRR
 Agency/Co.: CTG
 Date Performed: 15/06/2014
 Analysis Time Period: PM Peak Hour
 Intersection: Silverado Trail/Sage Canyon
 Jurisdiction: Napa Co
 Units: U. S. Customary
 Analysis Year: 2030 Summer w-o Project
 Project ID: Dakota Shy Winery
 East/West Street: Sage Canyon
 North/South Street: Silverado Trail
 Intersection Orientation: NS Study period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street:	Approach Movement	Northbound				Southbound		
		1 L	2 T	3 R	4 L	5 T	6 R	
Volume		0	515	55	211	1378	2	
Peak-Hour Factor, PHF		0.90	0.90	0.90	0.95	0.95	0.95	
Hourly Flow Rate, HFR		0	572	61	222	1450	2	
Percent Heavy Vehicles		0	--	--	1	--	--	
Median Type/Storage RT Channelized?		Undivided				/		
Lanes		1	1	0		1	1	0
Configuration		L		TR		L	TR	
Upstream Signal?		No				No		

Minor Street:	Approach Movement	Westbound				Eastbound			
		7 L	8 T	9 R	10 L	11 T	12 R		
Volume		95	2	90	3	0	3		
Peak Hour Factor, PHF		0.70	0.70	0.70	0.33	0.33	0.33		
Hourly Flow Rate, HFR		135	2	128	9	0	9		
Percent Heavy Vehicles		1	0	1	0	0	0		
Percent Grade (%)		0				0			
Flared Approach: Exists?/Storage						Yes	/1	No	/
Lanes		0	1	0		0	1	0	
Configuration		LTR				LTR			

Delay, Queue Length, and Level of Service

Approach Movement	NB 1	SB 4	Westbound			Eastbound		
			7	8	9	10	11	12
Lane Config	L	L		LTR		LTR		
v (vph)	0	222		265		18		
C(m) (vph)	472	955		30		19		
v/c	0.00	0.23		8.83		0.95		
95% queue length	0.00	0.90		32.44		2.54		
Control Delay	12.6	9.9		3780		467.1		
LOS	B	A		F		F		
Approach Delay				3780		467.1		
Approach LOS				F		F		

TWO-WAY STOP CONTROL SUMMARY

Analyst: DRR
 Agency/Co.: CTG
 Date Performed: 15/06/2014
 Analysis Time Period: PM Peak Hour
 Intersection: Silverado Trail/Sage Canyon
 Jurisdiction: Napa Co
 Units: U. S. Customary
 Analysis Year: 2030 Summer with Project
 Project ID: Dakota Shy Winery
 East/West Street: Sage Canyon
 North/South Street: Silverado Trail
 Intersection Orientation: NS Study period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street:	Approach Movement	Northbound				Southbound		
		1 L	2 T	3 R	4 L	5 T	6 R	
Volume		0	515	56	211	1378	2	
Peak-Hour Factor, PHF		0.90	0.90	0.90	0.95	0.95	0.95	
Hourly Flow Rate, HFR		0	572	62	222	1450	2	
Percent Heavy Vehicles		0	--	--	1	--	--	
Median Type/Storage		Undivided				/		
RT Channelized?								
Lanes		1	1	0		1	1	0
Configuration		L		TR		L	TR	
Upstream Signal?		No				No		

Minor Street:	Approach Movement	Westbound				Eastbound		
		7 L	8 T	9 R	10 L	11 T	12 R	
Volume		95	2	91	3	0	3	
Peak Hour Factor, PHF		0.70	0.70	0.70	0.33	0.33	0.33	
Hourly Flow Rate, HFR		135	2	130	9	0	9	
Percent Heavy Vehicles		1	0	1	0	0	0	
Percent Grade (%)		0				0		
Flared Approach: Exists?/Storage				Yes	/1	No		/
Lanes		0	1	0		0	1	0
Configuration		LTR				LTR		

Delay, Queue Length, and Level of Service

Approach Movement	NB 1	SB 4	Westbound			Eastbound		
			7	8	9	10	11	12
Lane Config	L	L		LTR		LTR		
v (vph)	0	222		267		18		
C(m) (vph)	472	954		30		19		
v/c	0.00	0.23		8.90		0.95		
95% queue length	0.00	0.90		32.69		2.54		
Control Delay	12.6	9.9		3810		467.1		
LOS	B	A		F		F		
Approach Delay				3810		467.1		
Approach LOS				F		F		

----- TWO-WAY STOP CONTROL SUMMARY -----

Analyst: DRR
 Agency/Co.: CTG
 Date Performed: 15/06/2014
 Analysis Time Period: Saturday PM Peak
 Intersection: Silverado Trail/Sage Canyon
 Jurisdiction: Napa Co
 Units: U. S. Customary
 Analysis Year: 2030 Summer w-o Project
 Project ID: Dakota Shy
 East/West Street: Sage Canyon
 North/South Street: Silverado Trail
 Intersection Orientation: NS Study period (hrs): 0.25

----- Vehicle Volumes and Adjustments -----

Major Street:	Approach Movement	Northbound				Southbound		
		1 L	2 T	3 R	4 	5 L	6 T	7 R
Volume		7	704	36		108	800	8
Peak-Hour Factor, PHF		0.85	0.85	0.85		0.94	0.94	0.94
Hourly Flow Rate, HFR		8	828	42		114	851	8
Percent Heavy Vehicles		0	--	--		0	--	--
Median Type/Storage		Undivided				/		
RT Channelized?								
Lanes		1	1	0		1	1	0
Configuration		L		TR		L		TR
Upstream Signal?		No				No		

Minor Street:	Approach Movement	Westbound				Eastbound		
		7 L	8 T	9 R	10 	11 L	12 T	13 R
Volume		103	2	104	3	0	7	
Peak Hour Factor, PHF		0.85	0.85	0.85	0.44	0.44	0.44	
Hourly Flow Rate, HFR		121	2	122	6	0	15	
Percent Heavy Vehicles		0	0	0	0	0	0	
Percent Grade (%)		0				0		
Flared Approach: Exists?/Storage		Yes				/1		
Lanes		0	1	0		0	1	0
Configuration		LTR			LTR			

----- Delay, Queue Length, and Level of Service -----

Approach	NB	SB	Westbound			Eastbound				
			7	8	9	10	11	12		
Movement	1	4		7	8	9		10	11	12
Lane Config	L	L		LTR	LTR	LTR		LTR	LTR	LTR
v (vph)	8	114		245	245	245		21	21	21
C(m) (vph)	791	783		74	74	74		75	75	75
v/c	0.01	0.15		3.31	3.31	3.31		0.28	0.28	0.28
95% queue length	0.03	0.51		25.04	25.04	25.04		1.01	1.01	1.01
Control Delay	9.6	10.4		1159	1159	1159		70.7	70.7	70.7
LOS	A	B		F	F	F		F	F	F
Approach Delay				1159	1159	1159		70.7	70.7	70.7
Approach LOS				F	F	F		F	F	F

----- TWO-WAY STOP CONTROL SUMMARY -----

Analyst: DRR
 Agency/Co.: CTG
 Date Performed: 15/06/2014
 Analysis Time Period: Saturday PM Peak
 Intersection: Silverado Trail/Sage Canyon
 Jurisdiction: Napa Co
 Units: U. S. Customary
 Analysis Year: 2030 Summer with Project
 Project ID: Dakota Shy
 East/West Street: Sage Canyon
 North/South Street: Silverado Trail
 Intersection Orientation: NS Study period (hrs): 0.25

----- Vehicle Volumes and Adjustments -----

Major Street:	Approach Movement	Northbound				Southbound		
		1 L	2 T	3 R	4 L	5 T	6 R	
Volume		7	704	37	109	800	8	
Peak-Hour Factor, PHF		0.85	0.85	0.85	0.94	0.94	0.94	
Hourly Flow Rate, HFR		8	828	43	115	851	8	
Percent Heavy Vehicles		0	--	--	0	--	--	
Median Type/Storage		Undivided				/		
RT Channelized?								
Lanes		1	1	0	1	1	0	
Configuration		L		TR	L		TR	
Upstream Signal?		No				No		

Minor Street:	Approach Movement	Westbound				Eastbound		
		7 L	8 T	9 R	10 L	11 T	12 R	
Volume		104	2	104	3	0	7	
Peak Hour Factor, PHF		0.85	0.85	0.85	0.44	0.44	0.44	
Hourly Flow Rate, HFR		122	2	122	6	0	15	
Percent Heavy Vehicles		0	0	0	0	0	0	
Percent Grade (%)		0				0		
Flared Approach: Exists?/Storage				Yes	/1	No /		
Lanes		0	1	0	0	1	0	
Configuration		LTR			LTR			

----- Delay, Queue Length, and Level of Service -----

Approach Movement	NB 1 L	SB 4 L	Westbound			Eastbound		
			7 	8 LTR	9 	10 	11 LTR	12
v (vph)	8	115	246			21		
C(m) (vph)	791	783	73			75		
v/c	0.01	0.15	3.37			0.28		
95% queue length	0.03	0.51	25.27			1.01		
Control Delay	9.6	10.4	1187			70.7		
LOS	A	B	F			F		
Approach Delay			1187			70.7		
Approach LOS			F			F		

TWO-WAY STOP CONTROL SUMMARY

Analyst: DRR
 Agency/Co.: CTG
 Date Performed: 05/02/2015
 Analysis Time Period: Harvest Friday AM Peak Hour
 Intersection: Silverado Trail/Sage Canyon Rd
 Jurisdiction: Napa Co
 Units: U. S. Customary
 Analysis Year: Existing without Project
 Project ID: Dakota Shy
 East/West Street: Sage Canyon Rd
 North/South Street: Silverado Trail
 Intersection Orientation: NS Study period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street:	Approach Movement	Northbound				Southbound		
		1 L	2 T	3 R	4 	5 L	6 T	7 R
Volume		1	650	51	43	277	2	
Peak-Hour Factor, PHF		0.91	0.91	0.91	0.87	0.87	0.87	
Hourly Flow Rate, HFR		1	714	56	49	318	2	
Percent Heavy Vehicles		0	--	--	1	--	--	
Median Type/Storage		Undivided				/		
RT Channelized?								
Lanes		1	1	0		1	1	0
Configuration		L		TR		L	TR	
Upstream Signal?		No				No		

Minor Street:	Approach Movement	Westbound				Eastbound			
		7 L	8 T	9 R	10 	11 L	12 T	13 R	
Volume		30	0	60	1	0	1		
Peak Hour Factor, PHF		0.95	0.95	0.95	0.25	0.25	0.25		
Hourly Flow Rate, HFR		31	0	63	4	0	4		
Percent Heavy Vehicles		1	0	1	0	0	0		
Percent Grade (%)		0				0			
Flared Approach: Exists?/Storage						Yes	/1	No	/
Lanes		0	1	0		0	1	0	
Configuration		LTR				LTR			

Delay, Queue Length, and Level of Service

Approach Movement	NB	SB	Westbound			Eastbound		
			7	8	9	10	11	12
Lane Config	L	L		LTR		LTR		
v (vph)	1	49		94		8		
C(m) (vph)	1251	849		494		226		
v/c	0.00	0.06		0.19		0.04		
95% queue length	0.00	0.18		0.70		0.11		
Control Delay	7.9	9.5		20.8		21.5		
LOS	A	A		C		C		
Approach Delay				20.8		21.5		
Approach LOS				C		C		

TWO-WAY STOP CONTROL SUMMARY

Analyst: DRR
 Agency/Co.: CTG
 Date Performed: 05/02/2015
 Analysis Time Period: Harvest Friday AM Peak Hour
 Intersection: Silverado Trail/Sage Canyon Rd
 Jurisdiction: Napa Co
 Units: U. S. Customary
 Analysis Year: Existing with Project
 Project ID: Dakota Shy
 East/West Street: Sage Canyon Rd
 North/South Street: Silverado Trail
 Intersection Orientation: NS Study period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street:	Approach Movement	Northbound				Southbound		
		1 L	2 T	3 R	4 L	5 T	6 R	
Volume		1	650	52	43	277	2	
Peak-Hour Factor, PHF		0.91	0.91	0.91	0.87	0.87	0.87	
Hourly Flow Rate, HFR		1	714	57	49	318	2	
Percent Heavy Vehicles		0	--	--	1	--	--	
Median Type/Storage		Undivided				/		
RT Channelized?								
Lanes		1	1	0		1	1	0
Configuration		L		TR		L	TR	
Upstream Signal?		No				No		

Minor Street:	Approach Movement	Westbound				Eastbound		
		7 L	8 T	9 R	10 L	11 T	12 R	
Volume		31	0	60	1	0	1	
Peak Hour Factor, PHF		0.95	0.95	0.95	0.25	0.25	0.25	
Hourly Flow Rate, HFR		32	0	63	4	0	4	
Percent Heavy Vehicles		1	0	1	0	0	0	
Percent Grade (%)		0				0		
Flared Approach: Exists?/Storage				Yes	/1	No /		
Lanes		0	1	0		0	1	0
Configuration		LTR				LTR		

Delay, Queue Length, and Level of Service

Approach Movement	NB	SB	Westbound			Eastbound		
			7	8	9	10	11	12
Lane Config	L	L		LTR		LTR		
v (vph)	1	49		95		8		
C(m) (vph)	1251	848		484		226		
v/c	0.00	0.06		0.20		0.04		
95% queue length	0.00	0.18		0.72		0.11		
Control Delay	7.9	9.5		21.0		21.5		
LOS	A	A		C		C		
Approach Delay				21.0		21.5		
Approach LOS				C		C		

TWO-WAY STOP CONTROL SUMMARY

Analyst: DRR
 Agency/Co.: CTG
 Date Performed: 15/06/2014
 Analysis Time Period: PM Peak Hour
 Intersection: Silverado Trail/Sage Canyon
 Jurisdiction: Napa Co
 Units: U. S. Customary
 Analysis Year: Existing Harvest w-o Project
 Project ID: Dakota Shy Winery
 East/West Street: Sage Canyon
 North/South Street: Silverado Trail
 Intersection Orientation: NS Study period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street:	Approach Movement	Northbound				Southbound		
		1 L	2 T	3 R	4 L	5 T	6 R	
Volume		0	474	44	102	1002	1	
Peak-Hour Factor, PHF		0.90	0.90	0.90	0.91	0.91	0.91	
Hourly Flow Rate, HFR		0	526	48	112	1101	1	
Percent Heavy Vehicles		0	--	--	1	--	--	
Median Type/Storage		Undivided				/		
RT Channelized?								
Lanes		1	1	0		1	1	0
Configuration		L		TR		L	TR	
Upstream Signal?		No				No		

Minor Street:	Approach Movement	Westbound				Eastbound		
		7 L	8 T	9 R	10 L	11 T	12 R	
Volume		92	1	85	2	0	2	
Peak Hour Factor, PHF		0.67	0.67	0.67	0.33	0.33	0.33	
Hourly Flow Rate, HFR		137	1	126	6	0	6	
Percent Heavy Vehicles		1	0	1	0	0	0	
Percent Grade (%)		0				0		
Flared Approach: Exists?/Storage				Yes	/1	No /		
Lanes		0	1	0		0	1	0
Configuration		LTR				LTR		

Delay, Queue Length, and Level of Service

Approach Movement	NB	SB	Westbound			Eastbound		
			7	8	9	10	11	12
Lane Config	L	L		LTR		LTR		
v (vph)	0	112		264		12		
C(m) (vph)	641	1004		87		62		
v/c	0.00	0.11		3.03		0.19		
95% queue length	0.00	0.38		25.94		0.65		
Control Delay	10.6	9.0		1020		76.5		
LOS	B	A		F		F		
Approach Delay				1020		76.5		
Approach LOS				F		F		

TWO-WAY STOP CONTROL SUMMARY

Analyst: DRR
 Agency/Co.: CTG
 Date Performed: 15/06/2014
 Analysis Time Period: PM Peak Hour
 Intersection: Silverado Trail/Sage Canyon
 Jurisdiction: Napa Co
 Units: U. S. Customary
 Analysis Year: Existing Harvest with Project
 Project ID: Dakota Shy Winery
 East/West Street: Sage Canyon
 North/South Street: Silverado Trail
 Intersection Orientation: NS Study period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street:	Approach Movement	Northbound				Southbound		
		1 L	2 T	3 R	4 	5 L	6 T	7 R
Volume		0	474	45		102	1002	1
Peak-Hour Factor, PHF		0.90	0.90	0.90		0.91	0.91	0.91
Hourly Flow Rate, HFR		0	526	50		112	1101	1
Percent Heavy Vehicles		0	--	--		1	--	--
Median Type/Storage		Undivided				/		
RT Channelized?								
Lanes		1	1	0		1	1	0
Configuration		L		TR		L		TR
Upstream Signal?		No				No		

Minor Street:	Approach Movement	Westbound				Eastbound		
		7 L	8 T	9 R	10 	11 L	12 T	13 R
Volume		92	1	86		2	0	2
Peak Hour Factor, PHF		0.67	0.67	0.67		0.33	0.33	0.33
Hourly Flow Rate, HFR		137	1	128		6	0	6
Percent Heavy Vehicles		1	0	1		0	0	0
Percent Grade (%)		0				0		
Flared Approach: Exists?/Storage		Yes				/1 No /		
Lanes		0	1	0		0	1	0
Configuration		LTR				LTR		

Delay, Queue Length, and Level of Service

Approach Movement	NB 1	SB 4	Westbound			Eastbound		
			7	8	9	10	11	12
Lane Config	L	L		LTR		LTR		
v (vph)	0	112		266		12		
C(m) (vph)	641	1002		87		60		
v/c	0.00	0.11		3.06		0.20		
95% queue length	0.00	0.38		26.18		0.67		
Control Delay	10.6	9.0		1030		79.4		
LOS	B	A		F		F		
Approach Delay				1030		79.4		
Approach LOS				F		F		

----- TWO-WAY STOP CONTROL SUMMARY -----

Analyst: DRR
 Agency/Co.: CTG
 Date Performed: 15/06/2014
 Analysis Time Period: Saturday PM Peak
 Intersection: Silverado Trail/Sage Canyon
 Jurisdiction: Napa Co
 Units: U. S. Customary
 Analysis Year: Existing Harvest w-o Project
 Project ID: Dakota Shy
 East/West Street: Sage Canyon
 North/South Street: Silverado Trail
 Intersection Orientation: NS Study period (hrs): 0.25

----- Vehicle Volumes and Adjustments -----

Major Street:	Approach Movement	Northbound				Southbound		
		1 L	2 T	3 R	4 L	5 T	6 R	
Volume		5	551	31	73	618	6	
Peak-Hour Factor, PHF		0.81	0.81	0.81	0.90	0.90	0.90	
Hourly Flow Rate, HFR		6	680	38	81	686	6	
Percent Heavy Vehicles		0	--	--	0	--	--	
Median Type/Storage		Undivided				/		
RT Channelized?								
Lanes		1	1	0		1	1	0
Configuration		L		TR		L	TR	
Upstream Signal?		No				No		

Minor Street:	Approach Movement	Westbound				Eastbound		
		7 L	8 T	9 R	10 L	11 T	12 R	
Volume		90	1	59	2	0	6	
Peak Hour Factor, PHF		0.84	0.84	0.84	0.44	0.44	0.44	
Hourly Flow Rate, HFR		107	1	70	4	0	13	
Percent Heavy Vehicles		0	0	0	0	0	0	
Percent Grade (%)		0				0		
Flared Approach: Exists?/Storage				Yes	/1	No		/
Lanes		0	1	0		0	1	0
Configuration		LTR				LTR		

----- Delay, Queue Length, and Level of Service -----

Approach Movement	NB	SB	Westbound			Eastbound		
			7	8	9	10	11	12
Lane Config	L	L		LTR		LTR		
v (vph)	6	81		178		17		
C(m) (vph)	912	892		122		192		
v/c	0.01	0.09		1.46		0.09		
95% queue length	0.02	0.30		12.39		0.29		
Control Delay	9.0	9.4		311.1		25.6		
LOS	A	A		F		D		
Approach Delay				311.1		25.6		
Approach LOS				F		D		

----- TWO-WAY STOP CONTROL SUMMARY -----

Analyst: DRR
 Agency/Co.: CTG
 Date Performed: 15/06/2014
 Analysis Time Period: Saturday PM Peak
 Intersection: Silverado Trail/Sage Canyon
 Jurisdiction: Napa Co
 Units: U. S. Customary
 Analysis Year: Existing Harvest with Project
 Project ID: Dakota Shy
 East/West Street: Sage Canyon
 North/South Street: Silverado Trail
 Intersection Orientation: NS Study period (hrs): 0.25

----- Vehicle Volumes and Adjustments -----

Major Street:	Approach Movement	Northbound				Southbound	
		1 L	2 T	3 R	4 L	5 T	6 R
Volume		5	551	32	74	618	6
Peak-Hour Factor, PHF		0.81	0.81	0.81	0.90	0.90	0.90
Hourly Flow Rate, HFR		6	680	39	82	686	6
Percent Heavy Vehicles		0	--	--	0	--	--
Median Type/Storage		Undivided				/	
RT Channelized?							
Lanes		1	1	0		1	1
Configuration		L		TR		L	TR
Upstream Signal?		No				No	

Minor Street:	Approach Movement	Westbound				Eastbound	
		7 L	8 T	9 R	10 L	11 T	12 R
Volume		90	1	60	2	0	6
Peak Hour Factor, PHF		0.84	0.84	0.84	0.44	0.44	0.44
Hourly Flow Rate, HFR		107	1	71	4	0	13
Percent Heavy Vehicles		0	0	0	0	0	0
Percent Grade (%)		0				0	
Flared Approach: Exists?/Storage				Yes	/1	No /	
Lanes		0	1	0		0	1
Configuration		LTR				LTR	

----- Delay, Queue Length, and Level of Service -----

Approach Movement	NB 1 L	SB 4 L	Westbound			Eastbound		
			7 	8 LTR	9 	10 	11 LTR	12
v (vph)	6	82	179			17		
C(m) (vph)	912	892	121			190		
v/c	0.01	0.09	1.48			0.09		
95% queue length	0.02	0.30	12.58			0.29		
Control Delay	9.0	9.4	319.9			25.8		
LOS	A	A	F			D		
Approach Delay			319.9			25.8		
Approach LOS			F			D		

----- TWO-WAY STOP CONTROL SUMMARY -----

Analyst: DRR
 Agency/Co.: CTG
 Date Performed: 05/02/2015
 Analysis Time Period: Summer Friday AM Peak Hour
 Intersection: Silverado Trail/Sage Canyon Rd
 Jurisdiction: Napa Co
 Units: U. S. Customary
 Analysis Year: Existing without Project
 Project ID: Dakota Shy
 East/West Street: Sage Canyon Rd
 North/South Street: Silverado Trail
 Intersection Orientation: NS Study period (hrs): 0.25

----- Vehicle Volumes and Adjustments -----

Major Street:	Approach Movement	Northbound				Southbound		
		1 L	2 T	3 R	4 L	5 T	6 R	
Volume		1	644	50	43	274	2	
Peak-Hour Factor, PHF		0.91	0.91	0.91	0.87	0.87	0.87	
Hourly Flow Rate, HFR		1	707	54	49	314	2	
Percent Heavy Vehicles		0	--	--	1	--	--	
Median Type/Storage		Undivided				/		
RT Channelized?								
Lanes		1	1	0		1	1	0
Configuration		L		TR		L	TR	
Upstream Signal?		No				No		

Minor Street:	Approach Movement	Westbound				Eastbound		
		7 L	8 T	9 R	10 L	11 T	12 R	
Volume		30	0	59	1	0	1	
Peak Hour Factor, PHF		0.95	0.95	0.95	0.25	0.25	0.25	
Hourly Flow Rate, HFR		31	0	62	4	0	4	
Percent Heavy Vehicles		1	0	1	0	0	0	
Percent Grade (%)		0				0		
Flared Approach: Exists?/Storage				Yes	/1	No /		
Lanes		0	1	0		0	1	0
Configuration		LTR				LTR		

----- Delay, Queue Length, and Level of Service -----

Approach Movement	NB	SB	Westbound			Eastbound		
			7	8	9	10	11	12
Lane Config	L	L		LTR		LTR		
v (vph)	1	49		93		8		
C(m) (vph)	1256	856		501		232		
v/c	0.00	0.06		0.19		0.03		
95% queue length	0.00	0.18		0.67		0.11		
Control Delay	7.9	9.5		20.5		21.1		
LOS	A	A		C		C		
Approach Delay				20.5		21.1		
Approach LOS				C		C		

----- TWO-WAY STOP CONTROL SUMMARY -----

Analyst: DRR
 Agency/Co.: CTG
 Date Performed: 05/02/2015
 Analysis Time Period: Summer Friday AM Peak Hour
 Intersection: Silverado Trail/Sage Canyon Rd
 Jurisdiction: Napa Co
 Units: U. S. Customary
 Analysis Year: Existing with Project
 Project ID: Dakota Shy
 East/West Street: Sage Canyon Rd
 North/South Street: Silverado Trail
 Intersection Orientation: NS Study period (hrs): 0.25

----- Vehicle Volumes and Adjustments -----

Major Street:	Approach Movement	Northbound				Southbound		
		1 L	2 T	3 R	4 L	5 T	6 R	
Volume		1	644	51	44	274	2	
Peak-Hour Factor, PHF		0.91	0.91	0.91	0.87	0.87	0.87	
Hourly Flow Rate, HFR		1	707	56	50	314	2	
Percent Heavy Vehicles		0	--	--	1	--	--	
Median Type/Storage		Undivided				/		
RT Channelized?								
Lanes		1	1	0		1	1	0
Configuration		L		TR		L	TR	
Upstream Signal?		No				No		

Minor Street:	Approach Movement	Westbound				Eastbound			
		7 L	8 T	9 R	10 L	11 T	12 R		
Volume		30	0	59	1	0	1		
Peak Hour Factor, PHF		0.95	0.95	0.95	0.25	0.25	0.25		
Hourly Flow Rate, HFR		31	0	62	4	0	4		
Percent Heavy Vehicles		1	0	1	0	0	0		
Percent Grade (%)		0				0			
Flared Approach: Exists?/Storage						Yes	/1	No	/
Lanes		0	1	0		0	1	0	
Configuration		LTR				LTR			

----- Delay, Queue Length, and Level of Service -----

Approach Movement	NB 1	SB 4	Westbound			Eastbound		
			7	8	9	10	11	12
Lane Config	L	L		LTR			LTR	
v (vph)	1	50		93			8	
C(m) (vph)	1256	854		498			231	
v/c	0.00	0.06		0.19			0.03	
95% queue length	0.00	0.19		0.68			0.11	
Control Delay	7.9	9.5		20.5			21.1	
LOS	A	A		C			C	
Approach Delay				20.5			21.1	
Approach LOS				C			C	

----- TWO-WAY STOP CONTROL SUMMARY -----

Analyst: DRR
 Agency/Co.: CTG
 Date Performed: 15/06/2014
 Analysis Time Period: PM Peak Hour
 Intersection: Silverado Trail/Sage Canyon
 Jurisdiction: Napa Co
 Units: U. S. Customary
 Analysis Year: Existing Summer w-o Project
 Project ID: Dakota Shy Winery
 East/West Street: Sage Canyon
 North/South Street: Silverado Trail
 Intersection Orientation: NS Study period (hrs): 0.25

----- Vehicle Volumes and Adjustments -----

Major Street:	Approach Movement	Northbound				Southbound		
		1 L	2 T	3 R	4 L	5 T	6 R	
Volume		0	464	43	100	982	1	
Peak-Hour Factor, PHF		0.90	0.90	0.90	0.91	0.91	0.91	
Hourly Flow Rate, HFR		0	515	47	109	1079	1	
Percent Heavy Vehicles		0	--	--	1	--	--	
Median Type/Storage		Undivided				/		
RT Channelized?								
Lanes		1	1	0		1	1	0
Configuration		L		TR		L	TR	
Upstream Signal?		No				No		

Minor Street:	Approach Movement	Westbound				Eastbound			
		7 L	8 T	9 R	10 L	11 T	12 R		
Volume		90	1	83	2	0	2		
Peak Hour Factor, PHF		0.67	0.67	0.67	0.33	0.33	0.33		
Hourly Flow Rate, HFR		134	1	123	6	0	6		
Percent Heavy Vehicles		1	0	1	0	0	0		
Percent Grade (%)		0				0			
Flared Approach: Exists?/Storage						Yes	/1	No	/
Lanes		0	1	0		0	1	0	
Configuration		LTR				LTR			

----- Delay, Queue Length, and Level of Service -----

Approach Movement	NB 1 L	SB 4 L	Westbound			Eastbound		
			7 	8 LTR	9 	10 	11 LTR	12
v (vph)	0	109	258			12		
C(m) (vph)	653	1014	92			65		
v/c	0.00	0.11	2.80			0.18		
95% queue length	0.00	0.36	24.67			0.62		
Control Delay	10.5	9.0	912.9			72.5		
LOS	B	A	F			F		
Approach Delay			912.9			72.5		
Approach LOS			F			F		

----- TWO-WAY STOP CONTROL SUMMARY -----

Analyst: DRR
 Agency/Co.: CTG
 Date Performed: 15/06/2014
 Analysis Time Period: PM Peak Hour
 Intersection: Silverado Trail/Sage Canyon
 Jurisdiction: Napa Co
 Units: U. S. Customary
 Analysis Year: Existing Summer with Project
 Project ID: Dakota Shy Winery
 East/West Street: Sage Canyon
 North/South Street: Silverado Trail
 Intersection Orientation: NS Study period (hrs): 0.25

----- Vehicle Volumes and Adjustments -----

Major Street:	Approach Movement	Northbound				Southbound		
		1 L	2 T	3 R	4 L	5 T	6 R	
Volume		0	464	44	100	982	1	
Peak-Hour Factor, PHF		0.90	0.90	0.90	0.91	0.91	0.91	
Hourly Flow Rate, HFR		0	515	48	109	1079	1	
Percent Heavy Vehicles		0	--	--	1	--	--	
Median Type/Storage		Undivided				/		
RT Channelized?								
Lanes		1	1	0		1	1	0
Configuration		L		TR		L	TR	
Upstream Signal?		No				No		

Minor Street:	Approach Movement	Westbound				Eastbound		
		7 L	8 T	9 R	10 L	11 T	12 R	
Volume		90	1	84	2	0	2	
Peak Hour Factor, PHF		0.67	0.67	0.67	0.33	0.33	0.33	
Hourly Flow Rate, HFR		134	1	125	6	0	6	
Percent Heavy Vehicles		1	0	1	0	0	0	
Percent Grade (%)		0				0		
Flared Approach: Exists?/Storage				Yes	/1	No /		
Lanes		0	1	0		0	1	0
Configuration		LTR				LTR		

----- Delay, Queue Length, and Level of Service -----

Approach Movement	NB 1	SB 4	Westbound			Eastbound		
			7	8	9	10	11	12
Lane Config	L	L		LTR		LTR		
v (vph)	0	109		260		12		
C(m) (vph)	653	1013		92		65		
v/c	0.00	0.11		2.83		0.18		
95% queue length	0.00	0.36		24.91		0.62		
Control Delay	10.5	9.0		922.5		72.5		
LOS	B	A		F		F		
Approach Delay				922.5		72.5		
Approach LOS				F		F		

TWO-WAY STOP CONTROL SUMMARY

Analyst: DRR
 Agency/Co.: CTG
 Date Performed: 15/06/2014
 Analysis Time Period: Saturday PM Peak
 Intersection: Silverado Trail/Sage Canyon
 Jurisdiction: Napa Co
 Units: U. S. Customary
 Analysis Year: Existing Summer w-o Project
 Project ID: Dakota Shy
 East/West Street: Sage Canyon
 North/South Street: Silverado Trail
 Intersection Orientation: NS Study period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street:	Approach Movement	Northbound				Southbound		
		1 L	2 T	3 R	4 L	5 T	6 R	
Volume		4	545	31	72	611	5	
Peak-Hour Factor, PHF		0.81	0.81	0.81	0.90	0.90	0.90	
Hourly Flow Rate, HFR		4	672	38	80	678	5	
Percent Heavy Vehicles		0	--	--	0	--	--	
Median Type/Storage		Undivided				/		
RT Channelized?								
Lanes		1	1	0		1	1	0
Configuration		L		TR		L	TR	
Upstream Signal?		No				No		

Minor Street:	Approach Movement	Westbound				Eastbound		
		7 L	8 T	9 R	10 L	11 T	12 R	
Volume		89	1	58	2	0	5	
Peak Hour Factor, PHF		0.84	0.84	0.84	0.44	0.44	0.44	
Hourly Flow Rate, HFR		105	1	69	4	0	11	
Percent Heavy Vehicles		0	0	0	0	0	0	
Percent Grade (%)		0				0		
Flared Approach: Exists?/Storage				Yes	/1	No		/
Lanes		0	1	0		0	1	0
Configuration		LTR				LTR		

Delay, Queue Length, and Level of Service

Approach Movement	NB 1 L	SB 4 L	Westbound			Eastbound		
			7 	8 LTR	9 	10 	11 LTR	12
v (vph)	4	80	175			15		
C(m) (vph)	919	899	127			184		
v/c	0.00	0.09	1.38			0.08		
95% queue length	0.01	0.29	11.64			0.26		
Control Delay	8.9	9.4	275.9			26.3		
LOS	A	A	F			D		
Approach Delay			275.9			26.3		
Approach LOS			F			D		

----- TWO-WAY STOP CONTROL SUMMARY -----

Analyst: DRR
 Agency/Co.: CTG
 Date Performed: 15/06/2014
 Analysis Time Period: Saturday PM Peak
 Intersection: Silverado Trail/Sage Canyon
 Jurisdiction: Napa Co
 Units: U. S. Customary
 Analysis Year: Existing Summer withProject
 Project ID: Dakota Shy
 East/West Street: Sage Canyon
 North/South Street: Silverado Trail
 Intersection Orientation: NS Study period (hrs): 0.25

----- Vehicle Volumes and Adjustments -----

Major Street:	Approach Movement	Northbound				Southbound		
		1 L	2 T	3 R	4 L	5 T	6 R	
Volume		4	545	32	73	611	5	
Peak-Hour Factor, PHF		0.81	0.81	0.81	0.90	0.90	0.90	
Hourly Flow Rate, HFR		4	672	39	81	678	5	
Percent Heavy Vehicles		0	--	--	0	--	--	
Median Type/Storage		Undivided				/		
RT Channelized?								
Lanes		1	1	0		1	1	0
Configuration		L		TR		L	TR	
Upstream Signal?		No				No		

Minor Street:	Approach Movement	Westbound				Eastbound		
		7 L	8 T	9 R	10 L	11 T	12 R	
Volume		90	1	58	2	0	5	
Peak Hour Factor, PHF		0.84	0.84	0.84	0.44	0.44	0.44	
Hourly Flow Rate, HFR		107	1	69	4	0	11	
Percent Heavy Vehicles		0	0	0	0	0	0	
Percent Grade (%)		0				0		
Flared Approach: Exists?/Storage				Yes	/1	No /		
Lanes		0	1	0		0	1	0
Configuration		LTR				LTR		

----- Delay, Queue Length, and Level of Service -----

Approach Movement	NB 1 L	SB 4 L	Westbound			Eastbound		
			7 	8 LTR	9 	10 	11 LTR	12
v (vph)	4	81	177			15		
C(m) (vph)	919	898	126			184		
v/c	0.00	0.09	1.40			0.08		
95% queue length	0.01	0.30	11.94			0.26		
Control Delay	8.9	9.4	287.0			26.3		
LOS	A	A	F			D		
Approach Delay			287.0			26.3		
Approach LOS			F			D		

Trafix Worksheets

2014 Friday Harvest AM
with Project

Level Of Service Computation Report
2000 HCM Unsignalized Method (Base Volume Alternative)

Intersection #1 Silverado Trail/Sage Canyon Rd

Average Delay (sec/veh): 1.4 Worst Case Level Of Service: C[21.6]

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Uncontrolled			Uncontrolled			Stop Sign			Stop Sign		
Rights:	Include			Include			Include			Include		
Lanes:	1	0	0	1	0	0	0	0	1	0	0	1

Volume Module:

Base Vol:	1	650	52	43	277	2	1	0	1	31	0	60
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	1	650	52	43	277	2	1	0	1	31	0	60
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.91	0.91	0.91	0.87	0.87	0.87	0.25	0.25	0.25	0.95	0.95	0.95
PHF Volume:	1	714	57	49	318	2	4	0	4	33	0	63
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	1	714	57	49	318	2	4	0	4	33	0	63

Critical Gap Module:

Critical Gp:	4.1	xxxx	xxxxx	4.1	xxxx	xxxxx	7.1	6.5	6.2	7.1	6.5	6.2
FollowUpTim:	2.2	xxxx	xxxxx	2.2	xxxx	xxxxx	3.5	4.0	3.3	3.5	4.0	3.3

Capacity Module:

Cnflct Vol:	321	xxxx	xxxxx	771	xxxx	xxxxx	1195	1192	320	1165	1165	743
Potent Cap.:	1245	xxxx	xxxxx	848	xxxx	xxxxx	165	189	726	172	195	417
Move Cap.:	1245	xxxx	xxxxx	848	xxxx	xxxxx	133	178	726	163	184	417
Volume/Cap:	0.00	xxxx	xxxx	0.06	xxxx	xxxx	0.03	0.00	0.01	0.20	0.00	0.15

Level Of Service Module:

2Way95thQ:	0.0	xxxx	xxxxx	0.2	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
Control Del:	7.9	xxxx	xxxxx	9.5	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
LOS by Move:	A	*	*	A	*	*	*	*	*	*	*	*
Movement:	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	225	xxxxx	xxxx	632	xxxxx
SharedQueue:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	0.1	xxxxx	xxxxx	0.5	xxxxx
Shrd ConDel:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	21.6	xxxxx	xxxxx	11.7	xxxxx
Shared LOS:	*	*	*	*	*	*	*	C	*	*	B	*
ApproachDel:	xxxxxxx			xxxxxxx			21.6			11.7		
ApproachLOS:		*			*		C			B		

Note: Queue reported is the number of cars per lane.

2014 Friday Harvest AM
without Project

Level Of Service Computation Report
2000 HCM Unsignalized Method (Base Volume Alternative)

Intersection #1 Silverado Trail/Sage Canyon Rd

Average Delay (sec/veh): 1.4 Worst Case Level Of Service: C[21.5]

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Uncontrolled			Uncontrolled			Stop Sign			Stop Sign		
Rights:	Include			Include			Include			Include		
Lanes:	1	0	0	1	0	0	0	0	1	0	0	1

Volume Module:

Base Vol:	1	650	51	43	277	2	1	0	1	30	0	60
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	1	650	51	43	277	2	1	0	1	30	0	60
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.91	0.91	0.91	0.87	0.87	0.87	0.25	0.25	0.25	0.95	0.95	0.95
PHF Volume:	1	714	56	49	318	2	4	0	4	32	0	63
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	1	714	56	49	318	2	4	0	4	32	0	63

Critical Gap Module:

Critical Gp:	4.1	xxxx	xxxxx	4.1	xxxx	xxxxx	7.1	6.5	6.2	7.1	6.5	6.2
FollowUpTim:	2.2	xxxx	xxxxx	2.2	xxxx	xxxxx	3.5	4.0	3.3	3.5	4.0	3.3

Capacity Module:

Cnflct Vol:	321	xxxx	xxxxx	770	xxxx	xxxxx	1194	1191	320	1165	1164	742
Potent Cap.:	1245	xxxx	xxxxx	849	xxxx	xxxxx	165	189	726	172	195	417
Move Cap.:	1245	xxxx	xxxxx	849	xxxx	xxxxx	134	178	726	163	184	417
Volume/Cap:	0.00	xxxx	xxxx	0.06	xxxx	xxxx	0.03	0.00	0.01	0.19	0.00	0.15

Level Of Service Module:

2Way95thQ:	0.0	xxxx	xxxxx	0.2	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
Control Del:	7.9	xxxx	xxxxx	9.5	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
LOS by Move:	A	*	*	A	*	*	*	*	*	*	*	*
Movement:	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	226	xxxxx	xxxx	626	xxxxx
SharedQueue:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	0.1	xxxxx	xxxxx	0.5	xxxxx
Shrd ConDel:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	21.5	xxxxx	xxxxx	11.8	xxxxx
Shared LOS:	*	*	*	*	*	*	*	C	*	*	B	*
ApproachDel:	xxxxxxx			xxxxxxx			21.5			11.8		
ApproachLOS:		*			*		C			B		

Note: Queue reported is the number of cars per lane.

2014 Friday Harvest PM with Project

Level Of Service Computation Report
2000 HCM Unsignalized Method (Base Volume Alternative)

Intersection #1 Silverado Trail/Sage Canyon Rd
Average Delay (sec/veh): 128.3 Worst Case Level Of Service: F[986.8]

Approach: North Bound South Bound East Bound West Bound
Movement: L - T - R L - T - R L - T - R L - T - R
Control: Uncontrolled Uncontrolled Stop Sign Stop Sign
Rights: Include Include Include Include
Lanes: 1 0 0 1 0 1 0 0 1 0 0 0 0 0 1! 0 0 0 0 1! 0 0
Volume Module:
Base Vol: 0 474 45 102 1002 1 2 0 2 92 1 86
Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Initial Bse: 0 474 45 102 1002 1 2 0 2 92 1 86
User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
PHF Adj: 0.90 0.90 0.90 0.91 0.91 0.91 0.33 0.33 0.33 0.67 0.67 0.67
PHF Volume: 0 527 50 112 1101 1 6 0 6 137 1 128
Reduct Vol: 0 0 0 0 0 0 0 0 0 0 0 0
FinalVolume: 0 527 50 112 1101 1 6 0 6 137 1 128
Critical Gap Module:
Critical Gp:xxxxx xxxx xxxxx 4.1 xxxx xxxxxx 7.1 6.5 6.2 7.1 6.5 6.2
FollowUpTim:xxxxx xxxx xxxxx 2.2 xxxx xxxxxx 3.5 4.0 3.3 3.5 4.0 3.3
Capacity Module:
Cnflict Vol: xxxx xxxx xxxxx 577 xxxx xxxxxx 1942 1902 1102 1881 1878 552
Potent Cap.: xxxx xxxx xxxxx 1002 xxxx xxxxxx 50 70 260 55 72 536
Move Cap.: xxxx xxxx xxxxx 1002 xxxx xxxxxx 34 62 260 49 64 536
Volume/Cap: xxxx xxxx xxxxx 0.11 xxxx xxxxx 0.18 0.00 0.02 2.82 0.02 0.24
Level Of Service Module:
2Way95thQ: xxxx xxxx xxxxx 0.4 xxxx xxxxxx xxxx xxxx xxxxxx xxxx xxxx xxxxxx
Control Del:xxxxx xxxx xxxxx 9.0 xxxx xxxxxx xxxxxx xxxx xxxxxx xxxxxx xxxx xxxxxx
LOS by Move: * * * A * * * * * * * * * *
Movement: LT - LTR - RT LT - LTR - RT LT - LTR - RT LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx xxxx xxxx xxxxxx xxxx 60 xxxxxx xxxx 90 xxxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxxx xxxx xxxxxx xxxxxx 0.7 xxxxxx xxxxxx 26.0 xxxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxxx xxxx xxxxxx xxxxxx 79.6 xxxxxx xxxxxx 987 xxxxxx
Shared LOS: * * * * * * * * * * * * * * * *
ApproachDel: xxxxxx xxxxxx 79.6 986.8
ApproachLOS: * * * * * * * * * * * * * * * *

Note: Queue reported is the number of cars per lane.

2014 Friday Harvest PM
without Project

Level Of Service Computation Report
2000 HCM Unsignalized Method (Base Volume Alternative)

Intersection #1 Silverado Trail/Sage Canyon Rd

Average Delay (sec/veh): 127.5 Worst Case Level Of Service: F[984.7]

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Uncontrolled			Uncontrolled			Stop Sign			Stop Sign		
Rights:	Include			Include			Include			Include		
Lanes:	1	0	0	1	0	0	0	0	1	0	0	1

Volume Module:

Base Vol:	0	474	44	102	1002	1	2	0	2	92	1	85
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	474	44	102	1002	1	2	0	2	92	1	85
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.90	0.90	0.90	0.91	0.91	0.91	0.33	0.33	0.33	0.67	0.67	0.67
PHF Volume:	0	527	49	112	1101	1	6	0	6	137	1	127
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	0	527	49	112	1101	1	6	0	6	137	1	127

Critical Gap Module:

Critical Gp:	xxxxx	xxxx	xxxxx	4.1	xxxx	xxxxx	7.1	6.5	6.2	7.1	6.5	6.2
FollowUpTim:	xxxxx	xxxx	xxxxx	2.2	xxxx	xxxxx	3.5	4.0	3.3	3.5	4.0	3.3

Capacity Module:

Cnflict Vol:	xxxx	xxxx	xxxxx	576	xxxx	xxxxx	1941	1901	1102	1880	1877	551
Potent Cap.:	xxxx	xxxx	xxxxx	1003	xxxx	xxxxx	50	70	260	55	72	536
Move Cap.:	xxxx	xxxx	xxxxx	1003	xxxx	xxxxx	34	62	260	49	64	536
Volume/Cap:	xxxx	xxxx	xxxx	0.11	xxxx	xxxx	0.18	0.00	0.02	2.81	0.02	0.24

Level Of Service Module:

2Way95thQ:	xxxx	xxxx	xxxxx	0.4	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
Control Del:	xxxxx	xxxx	xxxxx	9.0	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
LOS by Move:	*	*	*	A	*	*	*	*	*	*	*	*
Movement:	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	60	xxxxx	xxxx	90	xxxxx
SharedQueue:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	0.7	xxxxx	xxxxx	25.8	xxxxx
Shrd ConDel:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	79.1	xxxxx	xxxxx	985	xxxxx
Shared LOS:	*	*	*	*	*	*	*	F	*	*	F	*
ApproachDel:	xxxxxxx			xxxxxxx			79.1			984.7		
ApproachLOS:	*			*			F			F		

Note: Queue reported is the number of cars per lane.

2014 Saturday Harvest PM with Project

Level Of Service Computation Report
2000 HCM Unsignalized Method (Base Volume Alternative)

Intersection #1 Silverado Trail/Sage Canyon Rd

Average Delay (sec/veh): 26.7 Worst Case Level Of Service: F[244.9]

Table with 4 columns: North Bound, South Bound, East Bound, West Bound. Rows include Movement, Control, Rights, and Lanes.

Volume Module: Table with 12 columns for traffic volumes and adjustments. Rows include Base Vol, Growth Adj, Initial Bse, User Adj, PHF Adj, PHF Volume, Reduct Vol, and Final Volume.

Critical Gap Module: Table with 12 columns for gap and follow-up times. Rows include Critical Gp and FollowUpTim.

Capacity Module: Table with 12 columns for capacity and volume. Rows include Cnflct Vol, Potent Cap., Move Cap., and Volume/Cap.

Level Of Service Module: Table with 12 columns for LOS and delay. Rows include 2Way95thQ, Control Del, LOS by Move, Movement, Shared Cap., SharedQueue, Shrd ConDel, Shared LOS, ApproachDel, and ApproachLOS.

Note: Queue reported is the number of cars per lane.

2014 Saturday Harvest PM
without Project

Level Of Service Computation Report
2000 HCM Unsignalized Method (Base Volume Alternative)

Intersection #1 Silverado Trail/Sage Canyon Rd

Average Delay (sec/veh): 25.7 Worst Case Level Of Service: F[236.7]

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Uncontrolled			Uncontrolled			Stop Sign			Stop Sign		
Rights:	Include			Include			Include			Include		
Lanes:	1	0	0	1	0	0	0	0	1	0	0	1

Volume Module:

Base Vol:	5	551	31	73	618	6	2	0	6	90	1	59
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	5	551	31	73	618	6	2	0	6	90	1	59
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.81	0.81	0.81	0.90	0.90	0.90	0.44	0.44	0.44	0.84	0.84	0.84
PHF Volume:	6	680	38	81	687	7	5	0	14	107	1	70
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	6	680	38	81	687	7	5	0	14	107	1	70

Critical Gap Module:

Critical Gp:	4.1	xxxx	xxxxx	4.1	xxxx	xxxxx	7.1	6.5	6.2	7.1	6.5	6.2
FollowUpTim:	2.2	xxxx	xxxxx	2.2	xxxx	xxxxx	3.5	4.0	3.3	3.5	4.0	3.3

Capacity Module:

Cnflct Vol:	693	xxxx	xxxxx	719	xxxx	xxxxx	1600	1583	690	1571	1567	699
Potent Cap.:	911	xxxx	xxxxx	892	xxxx	xxxxx	86	110	449	91	112	443
Move Cap.:	911	xxxx	xxxxx	892	xxxx	xxxxx	67	99	449	81	101	443
Volume/Cap:	0.01	xxxx	xxxx	0.09	xxxx	xxxx	0.07	0.00	0.03	1.32	0.01	0.16

Level Of Service Module:

2Way95thQ:	0.0	xxxx	xxxxx	0.3	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
Control Del:	9.0	xxxx	xxxxx	9.4	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
LOS by Move:	A	*	*	A	*	*	*	*	*	*	*	*
Movement:	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	185	xxxxx	xxxx	138	xxxxx
SharedQueue:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	0.3	xxxxx	xxxxx	11.1	xxxxx
Shrd ConDel:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	26.6	xxxxx	xxxxx	237	xxxxx
Shared LOS:	*	*	*	*	*	*	*	D	*	*	F	*
ApproachDel:	xxxxxxx			xxxxxxx			26.6			236.7		
ApproachLOS:		*			*		D			F		

Note: Queue reported is the number of cars per lane.

2014 Friday Summer AM with Project

Level Of Service Computation Report 2000 HCM Unsignalized Method (Base Volume Alternative)

Intersection #1 Silverado Trail/Sage Canyon Rd
Average Delay (sec/veh): 1.4 Worst Case Level Of Service: C[21.3]
Approach: North Bound South Bound East Bound West Bound
Movement: L - T - R L - T - R L - T - R L - T - R
Control: Uncontrolled Uncontrolled Stop Sign Stop Sign
Rights: Include Include Include Include
Lanes: 1 0 0 1 0 1 0 0 1 0 0 0 0 0 1! 0 0 0 0 1! 0 0
Volume Module:
Base Vol: 1 644 51 44 274 2 1 0 1 30 0 59
Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Initial Bse: 1 644 51 44 274 2 1 0 1 30 0 59
User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
PHF Adj: 0.91 0.91 0.91 0.87 0.87 0.87 0.25 0.25 0.25 0.95 0.95 0.95
PHF Volume: 1 708 56 51 315 2 4 0 4 32 0 62
Reduct Vol: 0 0 0 0 0 0 0 0 0 0 0 0
FinalVolume: 1 708 56 51 315 2 4 0 4 32 0 62
Critical Gap Module:
Critical Gp: 4.1 xxxx xxxxx 4.1 xxxx xxxxx 7.1 6.5 6.2 7.1 6.5 6.2
FollowUpTim: 2.2 xxxx xxxxx 2.2 xxxx xxxxx 3.5 4.0 3.3 3.5 4.0 3.3
Capacity Module:
Cnflict Vol: 317 xxxx xxxxx 764 xxxx xxxxx 1186 1183 316 1157 1156 736
Potent Cap.: 1249 xxxx xxxxx 854 xxxx xxxxx 167 191 729 174 197 421
Move Cap.: 1249 xxxx xxxxx 854 xxxx xxxxx 136 180 729 165 185 421
Volume/Cap: 0.00 xxxx xxxxx 0.06 xxxx xxxxx 0.03 0.00 0.01 0.19 0.00 0.15
Level Of Service Module:
2Way95thQ: 0.0 xxxx xxxxx 0.2 xxxx xxxxx xxxx xxxx xxxxx xxxx xxxx xxxxx
Control Del: 7.9 xxxx xxxxx 9.5 xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move: A * * A * * * * * * * * * *
Movement: LT - LTR - RT LT - LTR - RT LT - LTR - RT LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx xxxx xxxx xxxxx xxxx 229 xxxxx xxxx 635 xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx 0.1 xxxxx xxxxx 0.5 xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx 21.3 xxxxx xxxxx 11.7 xxxxx
Shared LOS: * * * * * * * * * * * * * * * *
ApproachDel: xxxxxx xxxxxx 21.3 11.7
ApproachLOS: * * C B

Note: Queue reported is the number of cars per lane.

2014 Friday Summer AM
without Project

Level Of Service Computation Report
2000 HCM Unsignalized Method (Base Volume Alternative)

```

*****
Intersection #1 Silverado Trail/Sage Canyon Rd
*****
Average Delay (sec/veh):      1.4      Worst Case Level Of Service: C[ 21.2]
*****
Approach:      North Bound      South Bound      East Bound      West Bound
Movement:      L - T - R      L - T - R      L - T - R      L - T - R
-----|-----|-----|-----|
Control:      Uncontrolled      Uncontrolled      Stop Sign      Stop Sign
Rights:      Include      Include      Include      Include
Lanes:      1 0 0 1 0      1 0 0 1 0      0 0 1! 0 0      0 0 1! 0 0
-----|-----|-----|-----|
Volume Module:
Base Vol:      1 644 50      43 274 2      1 0 1      30 0 59
Growth Adj:  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
Initial Bse:  1 644 50      43 274 2      1 0 1      30 0 59
User Adj:    1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
PHF Adj:     0.91 0.91 0.91  0.87 0.87 0.87  0.25 0.25 0.25  0.95 0.95 0.95
PHF Volume:  1 708 55      49 315 2      4 0 4      32 0 62
Reduct Vol:  0 0 0      0 0 0      0 0 0      0 0 0
FinalVolume: 1 708 55      49 315 2      4 0 4      32 0 62
-----|-----|-----|-----|
Critical Gap Module:
Critical Gp:  4.1 xxxx xxxxx  4.1 xxxx xxxxx  7.1 6.5 6.2  7.1 6.5 6.2
FollowUpTim: 2.2 xxxx xxxxx  2.2 xxxx xxxxx  3.5 4.0 3.3  3.5 4.0 3.3
-----|-----|-----|-----|
Capacity Module:
Cnflct Vol:  317 xxxx xxxxx  763 xxxx xxxxx  1183 1180 316  1154 1153 735
Potent Cap.: 1249 xxxx xxxxx  854 xxxx xxxxx  168 192 729  175 198 421
Move Cap.:   1249 xxxx xxxxx  854 xxxx xxxxx  137 181 729  166 186 421
Volume/Cap:  0.00 xxxx xxxxx  0.06 xxxx xxxxx  0.03 0.00 0.01  0.19 0.00 0.15
-----|-----|-----|-----|
Level Of Service Module:
2Way95thQ:   0.0 xxxx xxxxx  0.2 xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Control Del: 7.9 xxxx xxxxx  9.5 xxxx xxxxx  xxxxx xxxx xxxxx  xxxxx xxxx xxxxx
LOS by Move:  A * *      A * *      * * *      * * *
Movement:    LT - LTR - RT  LT - LTR - RT  LT - LTR - RT  LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx 230 xxxxx  xxxx 635 xxxxx
SharedQueue:xxxxxx xxxx xxxxx  xxxxx xxxx xxxxx  xxxxx 0.1 xxxxx xxxxx  0.5 xxxxx
Shrd ConDel:xxxxxx xxxx xxxxx  xxxxx xxxx xxxxx  xxxxx 21.2 xxxxx xxxxx  11.6 xxxxx
Shared LOS:  * * *      * * *      * C *      * B *
ApproachDel:  xxxxxx      xxxxxx      21.2      11.6
ApproachLOS:  *      *      C      B
*****
Note: Queue reported is the number of cars per lane.
*****

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2014 Friday Summer PM with Project

Level Of Service Computation Report
2000 HCM Unsignalized Method (Base Volume Alternative)

Intersection #1 Silverado Trail/Sage Canyon Rd

Average Delay (sec/veh): 112.9 Worst Case Level Of Service: F[874.2]

Approach: North Bound South Bound East Bound West Bound
Movement: L - T - R L - T - R L - T - R L - T - R
Control: Uncontrolled Uncontrolled Stop Sign Stop Sign
Rights: Include Include Include Include
Lanes: 1 0 0 1 0 1 0 0 1 0 0 0 0 0 1! 0 0 0 0 1! 0 0
Volume Module:
Base Vol: 0 464 44 101 982 1 2 0 2 90 1 83
Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Initial Bse: 0 464 44 101 982 1 2 0 2 90 1 83
User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
PHF Adj: 0.90 0.90 0.90 0.91 0.91 0.91 0.33 0.33 0.33 0.67 0.67 0.67
PHF Volume: 0 516 49 111 1079 1 6 0 6 134 1 124
Reduct Vol: 0 0 0 0 0 0 0 0 0 0 0 0
FinalVolume: 0 516 49 111 1079 1 6 0 6 134 1 124
Critical Gap Module:
Critical Gp:xxxxx xxxx xxxxx 4.1 xxxx xxxxxx 7.1 6.5 6.2 7.1 6.5 6.2
FollowUpTim:xxxxx xxxx xxxxx 2.2 xxxx xxxxxx 3.5 4.0 3.3 3.5 4.0 3.3
Capacity Module:
Cnflict Vol: xxxx xxxx xxxxx 564 xxxx xxxxxx 1904 1866 1080 1845 1842 540
Potent Cap.: xxxx xxxx xxxxx 1012 xxxx xxxxxx 53 73 268 58 76 544
Move Cap.: xxxx xxxx xxxxx 1012 xxxx xxxxxx 37 65 268 52 67 544
Volume/Cap: xxxx xxxx xxxxx 0.11 xxxx xxxxx 0.16 0.00 0.02 2.59 0.02 0.23
Level Of Service Module:
2Way95thQ: xxxx xxxx xxxxx 0.4 xxxx xxxxxx xxxx xxxx xxxxxx xxxx xxxx xxxxxx
Control Del:xxxxx xxxx xxxxx 9.0 xxxx xxxxxx xxxxxx xxxx xxxxxx xxxxxx xxxx xxxxxx
LOS by Move: * * * A * * * * * * * * *
Movement: LT - LTR - RT LT - LTR - RT LT - LTR - RT LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx xxxx xxxx xxxxxx xxxx 65 xxxxxx xxxx 95 xxxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxxx xxxx xxxxxx xxxxxx 0.6 xxxxxx xxxxxx 24.5 xxxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxxx xxxx xxxxxx xxxxxx 73.2 xxxxxx xxxxxx 874 xxxxxx
Shared LOS: * * * * * * * * * * * * * * *
ApproachDel: xxxxxx xxxxxx 73.2 874.2
ApproachLOS: * * * * * * *
Note: Queue reported is the number of cars per lane.

2014 Friday Summer PM
without Project

Level Of Service Computation Report
2000 HCM Unsignalized Method (Base Volume Alternative)

Intersection #1 Silverado Trail/Sage Canyon Rd

Average Delay (sec/veh): 112.2 Worst Case Level Of Service: F[867.6]

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Uncontrolled			Uncontrolled			Stop Sign			Stop Sign		
Rights:	Include			Include			Include			Include		
Lanes:	1	0	0	1	0	0	0	0	1	0	0	1

Volume Module:

Base Vol:	0	464	43	100	982	1	2	0	2	90	1	83
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	464	43	100	982	1	2	0	2	90	1	83
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.90	0.90	0.90	0.91	0.91	0.91	0.33	0.33	0.33	0.67	0.67	0.67
PHF Volume:	0	516	48	110	1079	1	6	0	6	134	1	124
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	0	516	48	110	1079	1	6	0	6	134	1	124

Critical Gap Module:

Critical Gp:	xxxxx	xxxx	xxxxx	4.1	xxxx	xxxxx	7.1	6.5	6.2	7.1	6.5	6.2
FollowUpTim:	xxxxx	xxxx	xxxxx	2.2	xxxx	xxxxx	3.5	4.0	3.3	3.5	4.0	3.3

Capacity Module:

Cnflct Vol:	xxxx	xxxx	xxxxx	563	xxxx	xxxxx	1902	1863	1080	1842	1839	539
Potent Cap.:	xxxx	xxxx	xxxxx	1013	xxxx	xxxxx	53	74	268	58	76	544
Move Cap.:	xxxx	xxxx	xxxxx	1013	xxxx	xxxxx	37	66	268	52	68	544
Volume/Cap:	xxxx	xxxx	xxxx	0.11	xxxx	xxxx	0.16	0.00	0.02	2.58	0.02	0.23

Level Of Service Module:

2Way95thQ:	xxxx	xxxx	xxxxx	0.4	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
Control Del:	xxxxx	xxxx	xxxxx	9.0	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
LOS by Move:	*	*	*	A	*	*	*	*	*	*	*	*
Movement:	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	65	xxxxx	xxxx	96	xxxxx
SharedQueue:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	0.6	xxxxx	xxxxx	24.5	xxxxx
Shrd ConDel:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	72.7	xxxxx	xxxxx	868	xxxxx
Shared LOS:	*	*	*	*	*	*	*	F	*	*	F	*
ApproachDel:	xxxxxx			xxxxxx			72.7			867.6		
ApproachLOS:	*			*			F			F		

Note: Queue reported is the number of cars per lane.

2014 Saturday Summer PM with Project

Level Of Service Computation Report 2000 HCM Unsignalized Method (Base Volume Alternative)

***** Intersection #1 Silverado Trail/Sage Canyon Rd ***** Average Delay (sec/veh): 23.0 Worst Case Level Of Service: F[210.6] *****

Table with 4 columns: North Bound, South Bound, East Bound, West Bound. Rows include Movement, Control, Rights, and Lanes.

Volume Module: Table with 12 columns for traffic volumes and adjustment factors like Base Vol, Growth Adj, PHF Adj, etc.

Critical Gap Module: Table with 12 columns for critical gap and follow-up time values.

Capacity Module: Table with 12 columns for capacity-related metrics like Cnflct Vol, Potent Cap., Move Cap., etc.

Level Of Service Module: Table with 12 columns for LOS-related metrics like 2Way95thQ, Control Del, Shared Cap., etc.

Note: Queue reported is the number of cars per lane. *****

2014 Saturday Summer PM
without Project

Level Of Service Computation Report
2000 HCM Unsignalized Method (Base Volume Alternative)

```

*****
Intersection #1 Silverado Trail/Sage Canyon Rd
*****
Average Delay (sec/veh):      22.1      Worst Case Level Of Service: F[203.2]
*****
Approach:      North Bound      South Bound      East Bound      West Bound
Movement:      L - T - R      L - T - R      L - T - R      L - T - R
-----|-----|-----|-----|-----|
Control:      Uncontrolled      Uncontrolled      Stop Sign      Stop Sign
Rights:      Include      Include      Include      Include
Lanes:      1 0 0 1 0      1 0 0 1 0      0 0 1! 0 0      0 0 1! 0 0
-----|-----|-----|-----|-----|
Volume Module:
Base Vol:      4 545 31 72 611 5 2 0 5 89 1 58
Growth Adj:  1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Initial Bse:  4 545 31 72 611 5 2 0 5 89 1 58
User Adj:    1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
PHF Adj:     0.81 0.81 0.81 0.90 0.90 0.90 0.44 0.44 0.44 0.84 0.84 0.84
PHF Volume:  5 673 38 80 679 6 5 0 11 106 1 69
Reduct Vol:  0 0 0 0 0 0 0 0 0 0 0 0
FinalVolume: 5 673 38 80 679 6 5 0 11 106 1 69
-----|-----|-----|-----|-----|
Critical Gap Module:
Critical Gp:  4.1 xxxx xxxxx 4.1 xxxx xxxxx 7.1 6.5 6.2 7.1 6.5 6.2
FollowUpTim: 2.2 xxxx xxxxx 2.2 xxxx xxxxx 3.5 4.0 3.3 3.5 4.0 3.3
-----|-----|-----|-----|-----|
Capacity Module:
Cnflict Vol: 684 xxxx xxxxx 711 xxxx xxxxx 1579 1563 682 1549 1546 692
Potent Cap.: 918 xxxx xxxxx 898 xxxx xxxxx 89 113 454 94 116 447
Move Cap.:   918 xxxx xxxxx 898 xxxx xxxxx 70 102 454 85 105 447
Volume/Cap:  0.01 xxxx xxxxx 0.09 xxxx xxxxx 0.07 0.00 0.03 1.25 0.01 0.15
-----|-----|-----|-----|-----|
Level Of Service Module:
2Way95thQ:   0.0 xxxx xxxxx 0.3 xxxx xxxxx xxxx xxxx xxxxx xxxx xxxx xxxxx
Control Del: 8.9 xxxx xxxxx 9.4 xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move:  A * * A * * * * * * * * * *
Movement:    LT - LTR - RT LT - LTR - RT LT - LTR - RT LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx xxxx xxxx xxxxx xxxx 176 xxxxx xxxx 145 xxxxx
SharedQueue:xxxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx 0.3 xxxxx xxxxx 10.3 xxxxx
Shrd ConDel:xxxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx 27.5 xxxxx xxxxx 203 xxxxx
Shared LOS:  * * * * * * * * * * * * * * * *
ApproachDel: xxxxxx xxxxxx 27.5 203.2
ApproachLOS: * * * * * * * *
*****

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Note: Queue reported is the number of cars per lane.

2020 Friday Harvest AM
with Project

Level Of Service Computation Report
2000 HCM Unsignalized Method (Base Volume Alternative)

```

*****
Intersection #1 Silverado Trail/Sage Canyon Rd
*****
Average Delay (sec/veh):      1.6      Worst Case Level Of Service: D[ 27.4]
*****
Approach:      North Bound      South Bound      East Bound      West Bound
Movement:      L - T - R      L - T - R      L - T - R      L - T - R
-----|-----|-----|-----|
Control:      Uncontrolled      Uncontrolled      Stop Sign      Stop Sign
Rights:      Include      Include      Include      Include
Lanes:      1 0 0 1 0      1 0 0 1 0      0 0 1! 0 0      0 0 1! 0 0
-----|-----|-----|-----|
Volume Module:
Base Vol:      1 763 61 46 294 2 1 0 1 35 0 69
Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Initial Bse: 1 763 61 46 294 2 1 0 1 35 0 69
User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
PHF Adj: 0.91 0.91 0.91 0.87 0.87 0.87 0.25 0.25 0.25 0.95 0.95 0.95
PHF Volume: 1 838 67 53 338 2 4 0 4 37 0 73
Reduct Vol: 0 0 0 0 0 0 0 0 0 0 0 0
FinalVolume: 1 838 67 53 338 2 4 0 4 37 0 73
-----|-----|-----|-----|
Critical Gap Module:
Critical Gp: 4.1 xxxx xxxxx 4.1 xxxx xxxxx 7.1 6.5 6.2 7.1 6.5 6.2
FollowUpTim: 2.2 xxxx xxxxx 2.2 xxxx xxxxx 3.5 4.0 3.3 3.5 4.0 3.3
-----|-----|-----|-----|
Capacity Module:
Cnflct Vol: 340 xxxx xxxxx 905 xxxx xxxxx 1355 1353 339 1321 1320 872
Potent Cap.: 1225 xxxx xxxxx 755 xxxx xxxxx 128 151 708 134 158 351
Move Cap.: 1225 xxxx xxxxx 755 xxxx xxxxx 96 141 708 126 146 351
Volume/Cap: 0.00 xxxx xxxxx 0.07 xxxx xxxxx 0.04 0.00 0.01 0.29 0.00 0.21
-----|-----|-----|-----|
Level Of Service Module:
2Way95thQ: 0.0 xxxx xxxxx 0.2 xxxx xxxxx xxxx xxxx xxxxx xxxx xxxx xxxxx
Control Del: 7.9 xxxx xxxxx 10.1 xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move: A * * B * * * * * * * * *
Movement: LT - LTR - RT LT - LTR - RT LT - LTR - RT LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx xxxx xxxx xxxxx xxxx 169 xxxxx xxxx 530 xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx 0.1 xxxxx xxxxx 0.8 xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx 27.4 xxxxx xxxxx 13.6 xxxxx
Shared LOS: * * * * * * * * * * * * *
ApproachDel: xxxxxx xxxxxx 27.4 13.6
ApproachLOS: * * * * *
*****

```

Note: Queue reported is the number of cars per lane.

2020 Friday Harvest AM
without Project

Level Of Service Computation Report
2000 HCM Unsignalized Method (Base Volume Alternative)

Intersection #1 Silverado Trail/Sage Canyon Rd

Average Delay (sec/veh): 1.6 Worst Case Level Of Service: D[27.3]

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Uncontrolled			Uncontrolled			Stop Sign			Stop Sign		
Rights:	Include			Include			Include			Include		
Lanes:	1	0	0	1	0	0	0	0	1	0	0	1

Volume Module:

Base Vol:	1	763	60	46	294	2	1	0	1	34	0	69
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	1	763	60	46	294	2	1	0	1	34	0	69
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.91	0.91	0.91	0.87	0.87	0.87	0.25	0.25	0.25	0.95	0.95	0.95
PHF Volume:	1	838	66	53	338	2	4	0	4	36	0	73
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	1	838	66	53	338	2	4	0	4	36	0	73

Critical Gap Module:

Critical Gp:	4.1	xxxx	xxxxx	4.1	xxxx	xxxxx	7.1	6.5	6.2	7.1	6.5	6.2
FollowUpTim:	2.2	xxxx	xxxxx	2.2	xxxx	xxxxx	3.5	4.0	3.3	3.5	4.0	3.3

Capacity Module:

Cnflct Vol:	340	xxxx	xxxxx	904	xxxx	xxxxx	1355	1351	339	1320	1320	871
Potent Cap.:	1225	xxxx	xxxxx	756	xxxx	xxxxx	128	152	708	134	158	352
Move Cap.:	1225	xxxx	xxxxx	756	xxxx	xxxxx	96	141	708	126	146	352
Volume/Cap:	0.00	xxxx	xxxx	0.07	xxxx	xxxx	0.04	0.00	0.01	0.28	0.00	0.21

Level Of Service Module:

2Way95thQ:	0.0	xxxx	xxxxx	0.2	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
Control Del:	7.9	xxxx	xxxxx	10.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
LOS by Move:	A	*	*	B	*	*	*	*	*	*	*	*
Movement:	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	169	xxxxx	xxxx	525	xxxxx
SharedQueue:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	0.1	xxxxx	xxxxx	0.8	xxxxx
Shrd ConDel:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	27.3	xxxxx	xxxxx	13.6	xxxxx
Shared LOS:	*	*	*	*	*	*	*	D	*	*	B	*
ApproachDel:	xxxxxxx			xxxxxxx			27.3			13.6		
ApproachLOS:	*			*			D			B		

Note: Queue reported is the number of cars per lane.

2020 Friday Harvest PM with Project

Level Of Service Computation Report 2000 HCM Unsignalized Method (Base Volume Alternative)

***** Intersection #1 Silverado Trail/Sage Canyon Rd ***** Average Delay (sec/veh): 204.9 Worst Case Level Of Service: F[1765.5] *****

Table with 4 columns: North Bound, South Bound, East Bound, West Bound. Rows include Movement, Control, Rights, and Lanes.

Volume Module: Table with 12 columns for traffic volumes and adjustment factors like Base Vol, Growth Adj, PHF Volume, etc.

Critical Gap Module: Table with 12 columns for critical gap and follow-up time values.

Capacity Module: Table with 12 columns for capacity-related metrics like Cnflct Vol, Potent Cap., Move Cap., etc.

Level Of Service Module: Table with 12 columns for LOS-related metrics like 2Way95thQ, Control Del, Shared Cap., etc.

Note: Queue reported is the number of cars per lane. *****

2020 Friday Harvest PM
without Project

Level Of Service Computation Report
2000 HCM Unsignalized Method (Base Volume Alternative)

Intersection #1 Silverado Trail/Sage Canyon Rd

Average Delay (sec/veh): 203.7 Worst Case Level Of Service: F[1762.8]

Table with 4 columns: North Bound, South Bound, East Bound, West Bound. Rows include Movement, Control, Rights, and Lanes.

Volume Module: Table with 12 columns representing different traffic scenarios and rows for Base Vol, Growth Adj, Initial Bse, User Adj, PHF Adj, PHF Volume, Reduct Vol, and Final Volume.

Critical Gap Module: Table with 12 columns and rows for Critical Gp and FollowUpTim.

Capacity Module: Table with 12 columns and rows for Cnflict Vol, Potent Cap., Move Cap., and Volume/Cap.

Level Of Service Module: Table with 12 columns and rows for 2Way95thQ, Control Del, LOS by Move, Movement, Shared Cap., SharedQueue, Shrd ConDel, Shared LOS, ApproachDel, and ApproachLOS.

Note: Queue reported is the number of cars per lane.

2020 Saturday Harvest PM with Project

Level Of Service Computation Report
2000 HCM Unsignalized Method (Base Volume Alternative)

Intersection #1 Silverado Trail/Sage Canyon Rd

Average Delay (sec/veh): 63.7 Worst Case Level Of Service: F[566.7]

Table with 4 columns: North Bound, South Bound, East Bound, West Bound. Rows include Movement, Control, Rights, and Lanes.

Volume Module: Table with 12 columns representing different traffic movements and 6 rows of volume-related metrics like Base Vol, Growth Adj, etc.

Critical Gap Module: Table with 12 columns and 2 rows showing critical gap and follow-up time for various movements.

Capacity Module: Table with 12 columns and 4 rows showing capacity-related metrics like Cnflct Vol, Potent Cap., etc.

Level Of Service Module: Table with 12 columns and 10 rows showing level of service metrics like 2Way95thQ, Control Del, etc.

Note: Queue reported is the number of cars per lane.

2020 Saturday Harvest PM
without Project

Level Of Service Computation Report
2000 HCM Unsignalized Method (Base Volume Alternative)

Intersection #1 Silverado Trail/Sage Canyon Rd

Average Delay (sec/veh): 62.0 Worst Case Level Of Service: F[553.3]

Table with 4 columns: North Bound, South Bound, East Bound, West Bound. Rows include Movement, Control, Rights, and Lanes.

Volume Module: Table with 12 columns for traffic movements. Rows include Base Vol, Growth Adj, Initial Bse, User Adj, PHF Adj, PHF Volume, Reduct Vol, and Final Volume.

Critical Gap Module: Table with 12 columns for traffic movements. Rows include Critical Gp and FollowUpTim.

Capacity Module: Table with 12 columns for traffic movements. Rows include Cnflct Vol, Potent Cap., Move Cap., and Volume/Cap.

Level Of Service Module: Table with 12 columns for traffic movements. Rows include 2Way95thQ, Control Del, LOS by Move, Movement, Shared Cap., SharedQueue, Shrd ConDel, Shared LOS, ApproachDel, and ApproachLOS.

Note: Queue reported is the number of cars per lane.

2020 Friday Summer AM
with Project

Level Of Service Computation Report
2000 HCM Unsignalized Method (Base Volume Alternative)

Intersection #1 Silverado Trail/Sage Canyon Rd

Average Delay (sec/veh): 1.6 Worst Case Level Of Service: D[26.9]

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Uncontrolled			Uncontrolled			Stop Sign			Stop Sign		
Rights:	Include			Include			Include			Include		
Lanes:	1	0	0	1	0	0	0	0	1	0	0	1

Volume Module:

Base Vol:	1	756	60	47	291	2	1	0	1	34	0	68
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	1	756	60	47	291	2	1	0	1	34	0	68
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.91	0.91	0.91	0.87	0.87	0.87	0.25	0.25	0.25	0.95	0.95	0.95
PHF Volume:	1	831	66	54	334	2	4	0	4	36	0	72
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	1	831	66	54	334	2	4	0	4	36	0	72

Critical Gap Module:

Critical Gp:	4.1	xxxx	xxxxx	4.1	xxxx	xxxxx	7.1	6.5	6.2	7.1	6.5	6.2
FollowUpTim:	2.2	xxxx	xxxxx	2.2	xxxx	xxxxx	3.5	4.0	3.3	3.5	4.0	3.3

Capacity Module:

Cnflct Vol:	337	xxxx	xxxxx	897	xxxx	xxxxx	1345	1343	336	1312	1311	864
Potent Cap.:	1228	xxxx	xxxxx	761	xxxx	xxxxx	130	153	711	136	160	355
Move Cap.:	1228	xxxx	xxxxx	761	xxxx	xxxxx	98	142	711	128	148	355
Volume/Cap:	0.00	xxxx	xxxx	0.07	xxxx	xxxx	0.04	0.00	0.01	0.28	0.00	0.20

Level Of Service Module:

2Way95thQ:	0.0	xxxx	xxxxx	0.2	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
Control Del:	7.9	xxxx	xxxxx	10.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
LOS by Move:	A	*	*	B	*	*	*	*	*	*	*	*
Movement:	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	172	xxxxx	xxxx	533	xxxxx
SharedQueue:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	0.1	xxxxx	xxxxx	0.7	xxxxx
Shrd ConDel:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	26.9	xxxxx	xxxxx	13.5	xxxxx
Shared LOS:	*	*	*	*	*	*	*	D	*	*	B	*
ApproachDel:	xxxxxxx			xxxxxxx			26.9			13.5		
ApproachLOS:		*			*		D			B		

Note: Queue reported is the number of cars per lane.

2020 Friday Summer AM
without Project

Level Of Service Computation Report
2000 HCM Unsignalized Method (Base Volume Alternative)

Intersection #1 Silverado Trail/Sage Canyon Rd

Average Delay (sec/veh): 1.6 Worst Case Level Of Service: D[26.8]

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Uncontrolled			Uncontrolled			Stop Sign			Stop Sign		
Rights:	Include			Include			Include			Include		
Lanes:	1	0	0	1	0	0	0	0	1	0	0	1

Volume Module:

Base Vol:	1	756	59	46	291	2	1	0	1	34	0	68
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	1	756	59	46	291	2	1	0	1	34	0	68
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.91	0.91	0.91	0.87	0.87	0.87	0.25	0.25	0.25	0.95	0.95	0.95
PHF Volume:	1	831	65	53	334	2	4	0	4	36	0	72
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	1	831	65	53	334	2	4	0	4	36	0	72

Critical Gap Module:

Critical Gp:	4.1	xxxx	xxxxx	4.1	xxxx	xxxxx	7.1	6.5	6.2	7.1	6.5	6.2
FollowUpTim:	2.2	xxxx	xxxxx	2.2	xxxx	xxxxx	3.5	4.0	3.3	3.5	4.0	3.3

Capacity Module:

Cnflct Vol:	337	xxxx	xxxxx	896	xxxx	xxxxx	1343	1339	336	1309	1308	863
Potent Cap.:	1228	xxxx	xxxxx	762	xxxx	xxxxx	130	154	711	137	160	356
Move Cap.:	1228	xxxx	xxxxx	762	xxxx	xxxxx	99	143	711	129	149	356
Volume/Cap:	0.00	xxxx	xxxx	0.07	xxxx	xxxx	0.04	0.00	0.01	0.28	0.00	0.20

Level Of Service Module:

2Way95thQ:	0.0	xxxx	xxxxx	0.2	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
Control Del:	7.9	xxxx	xxxxx	10.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
LOS by Move:	A	*	*	B	*	*	*	*	*	*	*	*
Movement:	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	173	xxxxx	xxxx	533	xxxxx
SharedQueue:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	0.1	xxxxx	xxxxx	0.7	xxxxx
Shrd ConDel:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	26.8	xxxxx	xxxxx	13.4	xxxxx
Shared LOS:	*	*	*	*	*	*	*	D	*	*	B	*
ApproachDel:	xxxxxxx			xxxxxxx			26.8			13.4		
ApproachLOS:	*			*			D			B		

Note: Queue reported is the number of cars per lane.

2020 Friday Summer PM with Project

Level Of Service Computation Report 2000 HCM Unsignalized Method (Base Volume Alternative)

***** Intersection #1 Silverado Trail/Sage Canyon Rd ***** Average Delay (sec/veh): 193.5 Worst Case Level Of Service: F[1668.5] *****

Table with 4 columns: North Bound, South Bound, East Bound, West Bound. Rows include Movement, Control, Rights, and Lanes.

Volume Module: Table with 12 columns for traffic movements. Rows include Base Vol, Growth Adj, Initial Bse, User Adj, PHF Adj, PHF Volume, Reduct Vol, and Final Volume.

Critical Gap Module: Table with 12 columns for traffic movements. Rows include Critical Gp and FollowUpTim.

Capacity Module: Table with 12 columns for traffic movements. Rows include Cnflct Vol, Potent Cap., Move Cap., and Volume/Cap.

Level Of Service Module: Table with 12 columns for traffic movements. Rows include 2Way95thQ, Control Del, LOS by Move, Movement, Shared Cap., SharedQueue, Shrd ConDel, Shared LOS, ApproachDel, and ApproachLOS.

Note: Queue reported is the number of cars per lane. *****

2020 Friday Summer PM
without Project

Level Of Service Computation Report
2000 HCM Unsignalized Method (Base Volume Alternative)

Intersection #1 Silverado Trail/Sage Canyon Rd

Average Delay (sec/veh): 192.4 Worst Case Level Of Service: F[1665.9]

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Uncontrolled			Uncontrolled			Stop Sign			Stop Sign		
Rights:	Include			Include			Include			Include		
Lanes:	1	0	0	1	0	0	0	0	1	0	0	1

Volume Module:

Base Vol:	0	489	48	143	1144	1	2	0	3	93	1	87
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	489	48	143	1144	1	2	0	3	93	1	87
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.90	0.90	0.90	0.93	0.93	0.93	0.33	0.33	0.33	0.70	0.70	0.70
PHF Volume:	0	543	53	154	1230	1	6	0	9	133	1	124
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	0	543	53	154	1230	1	6	0	9	133	1	124

Critical Gap Module:

Critical Gp:	xxxxx	xxxx	xxxxx	4.1	xxxx	xxxxx	7.1	6.5	6.2	7.1	6.5	6.2
FollowUpTim:	xxxxx	xxxx	xxxxx	2.2	xxxx	xxxxx	3.5	4.0	3.3	3.5	4.0	3.3

Capacity Module:

Cnflict Vol:	xxxx	xxxx	xxxxx	597	xxxx	xxxxx	2171	2135	1231	2113	2109	570
Potent Cap.:	xxxx	xxxx	xxxxx	985	xxxx	xxxxx	34	50	219	37	51	523
Move Cap.:	xxxx	xxxx	xxxxx	985	xxxx	xxxxx	22	42	219	31	43	523
Volume/Cap:	xxxx	xxxx	xxxx	0.16	xxxx	xxxx	0.27	0.00	0.04	4.22	0.03	0.24

Level Of Service Module:

2Way95thQ:	xxxx	xxxx	xxxxx	0.6	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
Control Del:	xxxxx	xxxx	xxxxx	9.3	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
LOS by Move:	*	*	*	A	*	*	*	*	*	*	*	*
Movement:	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	48	xxxxx	xxxx	59	xxxxx
SharedQueue:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	1.1	xxxxx	xxxxx	28.4	xxxxx
Shrd ConDel:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	110	xxxxx	xxxxx	1666	xxxxx
Shared LOS:	*	*	*	*	*	*	*	F	*	*	F	*
ApproachDel:	xxxxxxx			xxxxxxx			110.1			1665.9		
ApproachLOS:	*			*			F			F		

Note: Queue reported is the number of cars per lane.

2020 Saturday Summer PM with Project

Level Of Service Computation Report 2000 HCM Unsignalized Method (Base Volume Alternative)

Intersection #1 Silverado Trail/Sage Canyon Rd
Average Delay (sec/veh): 54.0 Worst Case Level Of Service: F[480.1]
Approach: North Bound South Bound East Bound West Bound
Movement: L - T - R L - T - R L - T - R L - T - R
Control: Uncontrolled Uncontrolled Stop Sign Stop Sign
Rights: Include Include Include Include
Lanes: 1 0 0 1 0 1 0 0 1 0 0 0 0 0 1! 0 0 0 0 1! 0 0
Volume Module:
Base Vol: 5 609 34 87 686 6 2 0 5 96 1 75
Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Initial Bse: 5 609 34 87 686 6 2 0 5 96 1 75
User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
PHF Adj: 0.83 0.83 0.83 0.92 0.92 0.92 0.44 0.44 0.44 0.84 0.84 0.84
PHF Volume: 6 734 41 95 746 7 5 0 11 114 1 89
Reduct Vol: 0 0 0 0 0 0 0 0 0 0 0 0
FinalVolume: 6 734 41 95 746 7 5 0 11 114 1 89
Critical Gap Module:
Critical Gp: 4.1 xxxx xxxxx 4.1 xxxx xxxxx 7.1 6.5 6.2 7.1 6.5 6.2
FollowUpTim: 2.2 xxxx xxxxx 2.2 xxxx xxxxx 3.5 4.0 3.3 3.5 4.0 3.3
Capacity Module:
Cnflct Vol: 752 xxxx xxxxx 775 xxxx xxxxx 1750 1725 749 1710 1708 754
Potent Cap.: 867 xxxx xxxxx 850 xxxx xxxxx 68 90 415 72 92 412
Move Cap.: 867 xxxx xxxxx 850 xxxx xxxxx 48 79 415 64 81 412
Volume/Cap: 0.01 xxxx xxxxx 0.11 xxxx xxxxx 0.09 0.00 0.03 1.78 0.01 0.22
Level Of Service Module:
2Way95thQ: 0.0 xxxx xxxxx 0.4 xxxx xxxxx xxxx xxxx xxxxx xxxx xxxx xxxxx
Control Del: 9.2 xxxx xxxxx 9.8 xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move: A * * A * * * * * * * * *
Movement: LT - LTR - RT LT - LTR - RT LT - LTR - RT LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx xxxx xxxx xxxxx xxxx 130 xxxxx xxxx 111 xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx 0.4 xxxxx xxxxx 16.4 xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx 36.5 xxxxx xxxxx 480 xxxxx
Shared LOS: * * * * * * * * * * * * * * *
ApproachDel: xxxxxx xxxxxx 36.5 480.1
ApproachLOS: * * E F

Note: Queue reported is the number of cars per lane.

2020 Saturday Summer PM
without Project

Level Of Service Computation Report
2000 HCM Unsignalized Method (Base Volume Alternative)

Intersection #1 Silverado Trail/Sage Canyon Rd

Average Delay (sec/veh): 52.5 Worst Case Level Of Service: F[468.0]

Table with 4 columns: North Bound, South Bound, East Bound, West Bound. Rows include Movement, Control, Rights, and Lanes.

Volume Module:
Base Vol: 5 609 33 86 686 6 2 0 5 95 1 75
Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Initial Bse: 5 609 33 86 686 6 2 0 5 95 1 75
User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
PHF Adj: 0.83 0.83 0.83 0.92 0.92 0.92 0.44 0.44 0.44 0.84 0.84 0.84
PHF Volume: 6 734 40 93 746 7 5 0 11 113 1 89
Reduct Vol: 0 0 0 0 0 0 0 0 0 0 0 0
FinalVolume: 6 734 40 93 746 7 5 0 11 113 1 89

Critical Gap Module:
Critical Gp: 4.1 xxxx xxxxx 4.1 xxxx xxxxx 7.1 6.5 6.2 7.1 6.5 6.2
FollowUpTim: 2.2 xxxx xxxxx 2.2 xxxx xxxxx 3.5 4.0 3.3 3.5 4.0 3.3

Capacity Module:
Cnflct Vol: 752 xxxx xxxxx 773 xxxx xxxxx 1747 1721 749 1707 1705 754
Potent Cap.: 867 xxxx xxxxx 851 xxxx xxxxx 68 90 415 73 92 413
Move Cap.: 867 xxxx xxxxx 851 xxxx xxxxx 48 80 415 64 82 413
Volume/Cap: 0.01 xxxx xxxxx 0.11 xxxx xxxxx 0.09 0.00 0.03 1.76 0.01 0.22

Level Of Service Module:
2Way95thQ: 0.0 xxxx xxxxx 0.4 xxxx xxxxx xxxx xxxx xxxxx xxxx xxxx xxxxx
Control Del: 9.2 xxxx xxxxx 9.8 xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move: A * * A * * * * * * * * *
Movement: LT - LTR - RT LT - LTR - RT LT - LTR - RT LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx xxxx xxxx xxxxx xxxx 131 xxxxx xxxx 112 xxxxx
SharedQueue:xxxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx 0.4 xxxxx xxxxx 16.2 xxxxx
Shrd ConDel:xxxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx 36.3 xxxxx xxxxx 468 xxxxx
Shared LOS: * * * * * * * * * * * * *
ApproachDel: xxxxxx xxxxxx 36.3 468.0
ApproachLOS: * * E F

Note: Queue reported is the number of cars per lane.

2030 Friday Harvest AM
with Project

Level Of Service Computation Report
2000 HCM Unsignalized Method (Base Volume Alternative)

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*****
Intersection #1 Silverado Trail/Sage Canyon Rd
*****
Average Delay (sec/veh):      2.8      Worst Case Level Of Service: E[ 43.1]
*****
Approach:      North Bound      South Bound      East Bound      West Bound
Movement:      L - T - R      L - T - R      L - T - R      L - T - R
-----|-----|-----|-----|-----|
Control:      Uncontrolled      Uncontrolled      Stop Sign      Stop Sign
Rights:      Include      Include      Include      Include
Lanes:      1 0 0 1 0      1 0 0 1 0      0 0 1! 0 0      0 0 1! 0 0
-----|-----|-----|-----|-----|
Volume Module:
Base Vol:      1 951 76 50 322 2 1 0 1 42 0 82
Growth Adj:  1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Initial Bse:  1 951 76 50 322 2 1 0 1 42 0 82
User Adj:    1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
PHF Adj:     0.93 0.93 0.93 0.87 0.87 0.87 0.25 0.25 0.25 0.95 0.95 0.95
PHF Volume:  1 1023 82 57 370 2 4 0 4 44 0 86
Reduct Vol:  0 0 0 0 0 0 0 0 0 0 0 0
FinalVolume: 1 1023 82 57 370 2 4 0 4 44 0 86
-----|-----|-----|-----|-----|
Critical Gap Module:
Critical Gp:  4.1 xxxx xxxxx 4.1 xxxx xxxxx 7.1 6.5 6.2 7.1 6.5 6.2
FollowUpTim:  2.2 xxxx xxxxx 2.2 xxxx xxxxx 3.5 4.0 3.3 3.5 4.0 3.3
-----|-----|-----|-----|-----|
Capacity Module:
Cnflict Vol:  372 xxxx xxxxx 1104 xxxx xxxxx 1595 1593 371 1554 1553 1063
Potent Cap.:  1192 xxxx xxxxx 636 xxxx xxxxx 87 108 679 93 114 272
Move Cap.:    1192 xxxx xxxxx 636 xxxx xxxxx 55 98 679 86 103 272
Volume/Cap:  0.00 xxxx xxxxx 0.09 xxxx xxxxx 0.07 0.00 0.01 0.52 0.00 0.32
-----|-----|-----|-----|-----|
Level Of Service Module:
2Way95thQ:   0.0 xxxx xxxxx 0.3 xxxx xxxxx xxxx xxxx xxxxx xxxx xxxx xxxxx
Control Del:  8.0 xxxx xxxxx 11.2 xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move:  A * * B * * * * * * * * * *
Movement:    LT - LTR - RT LT - LTR - RT LT - LTR - RT LT - LTR - RT
Shared Cap.:  xxxx xxxx xxxxx xxxx xxxx xxxxx xxxx 102 xxxxx xxxx 284 xxxxx
SharedQueue:  xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx 0.2 xxxxx xxxxx 2.3 xxxxx
Shrd ConDel:  xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx 43.1 xxxxx xxxxx 28.0 xxxxx
Shared LOS:   * * * * * * * * * * * * * * * *
ApproachDel:  xxxxxx xxxxxx 43.1 28.0
ApproachLOS:  * * * * * * * * * * * * * * * *

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*****
Note: Queue reported is the number of cars per lane.
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2030 Friday Harvest AM
without Project

Level Of Service Computation Report
2000 HCM Unsignalized Method (Base Volume Alternative)

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*****
Intersection #1 Silverado Trail/Sage Canyon Rd
*****
Average Delay (sec/veh):      2.8      Worst Case Level Of Service: E[ 43.1]
*****
Approach:      North Bound      South Bound      East Bound      West Bound
Movement:      L - T - R      L - T - R      L - T - R      L - T - R
-----|-----|-----|-----|-----|
Control:      Uncontrolled      Uncontrolled      Stop Sign      Stop Sign
Rights:      Include      Include      Include      Include
Lanes:      1 0 0 1 0      1 0 0 1 0      0 0 1! 0 0      0 0 1! 0 0
-----|-----|-----|-----|-----|
Volume Module:
Base Vol:      1 951 75 50 322 2 1 0 1 41 0 82
Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Initial Bse: 1 951 75 50 322 2 1 0 1 41 0 82
User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
PHF Adj: 0.93 0.93 0.93 0.87 0.87 0.87 0.25 0.25 0.25 0.95 0.95 0.95
PHF Volume: 1 1023 81 57 370 2 4 0 4 43 0 86
Reduct Vol: 0 0 0 0 0 0 0 0 0 0 0 0
FinalVolume: 1 1023 81 57 370 2 4 0 4 43 0 86
-----|-----|-----|-----|-----|
Critical Gap Module:
Critical Gp: 4.1 xxxx xxxxx 4.1 xxxx xxxxx 7.1 6.5 6.2 7.1 6.5 6.2
FollowUpTim: 2.2 xxxx xxxxx 2.2 xxxx xxxxx 3.5 4.0 3.3 3.5 4.0 3.3
-----|-----|-----|-----|-----|
Capacity Module:
Cnflict Vol: 372 xxxx xxxxx 1103 xxxx xxxxx 1594 1592 371 1553 1552 1063
Potent Cap.: 1192 xxxx xxxxx 637 xxxx xxxxx 87 108 679 93 114 272
Move Cap.: 1192 xxxx xxxxx 637 xxxx xxxxx 55 99 679 86 104 272
Volume/Cap: 0.00 xxxx xxxxx 0.09 xxxx xxxxx 0.07 0.00 0.01 0.50 0.00 0.32
-----|-----|-----|-----|-----|
Level Of Service Module:
2Way95thQ: 0.0 xxxx xxxxx 0.3 xxxx xxxxx xxxx xxxx xxxxx xxxx xxxx xxxxx
Control Del: 8.0 xxxx xxxxx 11.2 xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move: A * * B * * * * * * * * *
Movement: LT - LTR - RT LT - LTR - RT LT - LTR - RT LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx xxxx xxxx xxxxx xxxx 102 xxxxx xxxx 283 xxxxx
SharedQueue:xxxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx 0.2 xxxxx xxxxx 2.3 xxxxx
Shrd ConDel:xxxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx 43.1 xxxxx xxxxx 28.0 xxxxx
Shared LOS: * * * * * * * * * * * * * * *
ApproachDel: xxxxxx xxxxxx 43.1 28.0
ApproachLOS: * * * * * * *
*****
Note: Queue reported is the number of cars per lane.
*****

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2030 Friday Harvest PM with Project

Level Of Service Computation Report 2000 HCM Unsignalized Method (Base Volume Alternative)

***** Intersection #1 Silverado Trail/Sage Canyon Rd ***** Average Delay (sec/veh): 443.2 Worst Case Level Of Service: F[4238.2] *****

Table with 4 columns: North Bound, South Bound, East Bound, West Bound. Rows include Movement, Control, Rights, and Lanes.

Volume Module: Table with 12 columns representing different traffic scenarios and rows for Base Vol, Growth Adj, Initial Bse, User Adj, PHF Adj, PHF Volume, Reduct Vol, and Final Volume.

Critical Gap Module: Table with 12 columns and rows for Critical Gp and FollowUpTim.

Capacity Module: Table with 12 columns and rows for Cnflct Vol, Potent Cap., Move Cap., and Volume/Cap.

Level Of Service Module: Table with 12 columns and rows for 2Way95thQ, Control Del, LOS by Move, Movement, Shared Cap., SharedQueue, Shrd ConDel, Shared LOS, ApproachDel, and ApproachLOS.

***** Note: Queue reported is the number of cars per lane. *****

2030 Friday Harvest PM
without Project

Level Of Service Computation Report
2000 HCM Unsignalized Method (Base Volume Alternative)

Intersection #1 Silverado Trail/Sage Canyon Rd

Average Delay (sec/veh): 440.8 Worst Case Level Of Service: F[4233.0]

Table with 4 columns: North Bound, South Bound, East Bound, West Bound. Rows include Movement, Control, Rights, and Lanes.

Volume Module:
Base Vol: 0 520 56 213 1392 2 3 0 3 96 2 91
Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Initial Bse: 0 520 56 213 1392 2 3 0 3 96 2 91
User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
PHF Adj: 0.90 0.90 0.90 0.95 0.95 0.95 0.33 0.33 0.33 0.70 0.70 0.70
PHF Volume: 0 578 62 224 1465 2 9 0 9 137 3 130
Reduct Vol: 0 0 0 0 0 0 0 0 0 0 0 0
FinalVolume: 0 578 62 224 1465 2 9 0 9 137 3 130

Critical Gap Module:
Critical Gp:xxxxx xxxxx xxxxx 4.1 xxxxx xxxxx 7.1 6.5 6.2 7.1 6.5 6.2
FollowUpTim:xxxxx xxxxx xxxxx 2.2 xxxxx xxxxx 3.5 4.0 3.3 3.5 4.0 3.3

Capacity Module:
Cnflict Vol: xxxxx xxxxx xxxxx 640 xxxxx xxxxx 2590 2555 1466 2528 2525 609
Potent Cap.: xxxxx xxxxx xxxxx 949 xxxxx xxxxx 17 27 159 19 28 497
Move Cap.: xxxxx xxxxx xxxxx 949 xxxxx xxxxx 9 21 159 14 21 497
Volume/Cap: xxxxx xxxxx xxxxx 0.24 xxxxx xxxxx 0.98 0.00 0.06 9.49 0.13 0.26

Level Of Service Module:
2Way95thQ: xxxxx xxxxx xxxxx 0.9 xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx
Control Del:xxxxx xxxxx xxxxx 10.0 xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx
LOS by Move: * * * A * * * * * * * * * *
Movement: LT - LTR - RT LT - LTR - RT LT - LTR - RT LT - LTR - RT
Shared Cap.: xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx 18 xxxxx xxxxx 28 xxxxx
SharedQueue:xxxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx 2.7 xxxxx xxxxx 33.3 xxxxx
Shrd ConDel:xxxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx 529 xxxxx xxxxx 4233 xxxxx
Shared LOS: * * * * * * * * * * * * * * * *
ApproachDel: xxxxxxx xxxxxxx 528.6 4233.0
ApproachLOS: * * * F * F

Note: Queue reported is the number of cars per lane.

2030 Saturday Harvest PM with Project

Level Of Service Computation Report
2000 HCM Unsignalized Method (Base Volume Alternative)

Intersection #1 Silverado Trail/Sage Canyon Rd

Average Delay (sec/veh): 150.3 Worst Case Level Of Service: F[1280.8]

Table with 4 columns: North Bound, South Bound, East Bound, West Bound. Rows include Movement, Control, Rights, and Lanes.

Volume Module: Table with 12 columns for traffic volumes and adjustment factors like Base Vol, Growth Adj, PHF Adj, etc.

Critical Gap Module: Table with 12 columns for gap and follow-up times for different movements.

Capacity Module: Table with 12 columns for capacity-related metrics like Cnflct Vol, Potent Cap., Move Cap., etc.

Level Of Service Module: Table with 12 columns for LOS-related metrics like 2Way95thQ, Control Del, Shared Cap., etc.

Note: Queue reported is the number of cars per lane.

2030 Saturday Harvest PM
without Project

Level Of Service Computation Report
2000 HCM Unsignalized Method (Base Volume Alternative)

Intersection #1 Silverado Trail/Sage Canyon Rd

Average Delay (sec/veh): 146.9 Worst Case Level Of Service: F[1255.3]

Table with 4 columns: North Bound, South Bound, East Bound, West Bound. Rows include Movement, Control, Rights, and Lanes.

Volume Module:

Table with 12 columns representing traffic volumes and adjustments. Rows include Base Vol, Growth Adj, Initial Bse, User Adj, PHF Adj, PHF Volume, Reduct Vol, and Final Volume.

Critical Gap Module:

Table with 12 columns for critical gap and follow-up times. Rows include Critical Gp and FollowUpTim.

Capacity Module:

Table with 12 columns for capacity metrics. Rows include Cnflct Vol, Potent Cap., Move Cap., and Volume/Cap.

Level Of Service Module:

Table with 12 columns for level of service metrics. Rows include 2Way95thQ, Control Del, LOS by Move, Movement, Shared Cap., Shared Queue, Shrd ConDel, Shared LOS, ApproachDel, and ApproachLOS.

Note: Queue reported is the number of cars per lane.

2030 Friday Summer AM with Project

Level Of Service Computation Report 2000 HCM Unsignalized Method (Base Volume Alternative)

***** Intersection #1 Silverado Trail/Sage Canyon Rd *****

Average Delay (sec/veh): 2.7 Worst Case Level Of Service: E[41.8] *****

Table with 4 columns: North Bound, South Bound, East Bound, West Bound. Rows include Movement, Control, Rights, and Lanes.

Volume Module: Table with 12 columns for traffic volumes and adjustments. Rows include Base Vol, Growth Adj, Initial Bse, User Adj, PHF Adj, PHF Volume, Reduct Vol, and Final Volume.

Critical Gap Module: Table with 12 columns for gap and follow-up times. Rows include Critical Gp and FollowUpTim.

Capacity Module: Table with 12 columns for capacity and volume. Rows include Cnflct Vol, Potent Cap., Move Cap., and Volume/Cap.

Level Of Service Module: Table with 12 columns for LOS and delay. Rows include 2Way95thQ, Control Del, LOS by Move, Movement, Shared Cap., SharedQueue, Shrd ConDel, Shared LOS, ApproachDel, and ApproachLOS.

Note: Queue reported is the number of cars per lane. *****

2030 Friday Summer AM
without Project

Level Of Service Computation Report
2000 HCM Unsignalized Method (Base Volume Alternative)

Intersection #1 Silverado Trail/Sage Canyon Rd

Average Delay (sec/veh): 2.7 Worst Case Level Of Service: E[41.6]

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Uncontrolled			Uncontrolled			Stop Sign			Stop Sign		
Rights:	Include			Include			Include			Include		
Lanes:	1	0	0	1	0	0	0	0	1	0	0	1

Volume Module:

Base Vol:	1	942	74	49	319	2	1	0	1	41	0	81
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	1	942	74	49	319	2	1	0	1	41	0	81
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.93	0.93	0.93	0.87	0.87	0.87	0.25	0.25	0.25	0.95	0.95	0.95
PHF Volume:	1	1013	80	56	367	2	4	0	4	43	0	85
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	1	1013	80	56	367	2	4	0	4	43	0	85

Critical Gap Module:

Critical Gp:	4.1	xxxx	xxxxx	4.1	xxxx	xxxxx	7.1	6.5	6.2	7.1	6.5	6.2
FollowUpTim:	2.2	xxxx	xxxxx	2.2	xxxx	xxxxx	3.5	4.0	3.3	3.5	4.0	3.3

Capacity Module:

Cnflct Vol:	369	xxxx	xxxxx	1092	xxxx	xxxxx	1578	1575	368	1537	1536	1053
Potent Cap.:	1195	xxxx	xxxxx	643	xxxx	xxxxx	90	111	682	95	117	276
Move Cap.:	1195	xxxx	xxxxx	643	xxxx	xxxxx	58	101	682	88	106	276
Volume/Cap:	0.00	xxxx	xxxx	0.09	xxxx	xxxx	0.07	0.00	0.01	0.49	0.00	0.31

Level Of Service Module:

2Way95thQ:	0.0	xxxx	xxxxx	0.3	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
Control Del:	8.0	xxxx	xxxxx	11.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
LOS by Move:	A	*	*	B	*	*	*	*	*	*	*	*
Movement:	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	106	xxxxx	xxxx	288	xxxxx
SharedQueue:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	0.2	xxxxx	xxxxx	2.2	xxxxx
Shrd ConDel:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	41.6	xxxxx	xxxxx	27.1	xxxxx
Shared LOS:	*	*	*	*	*	*	*	E	*	*	D	*
ApproachDel:	xxxxxx			xxxxxx			41.6			27.1		
ApproachLOS:	*			*			E			D		

Note: Queue reported is the number of cars per lane.

2030 Friday Summer PM with Project

Level Of Service Computation Report 2000 HCM Unsignalized Method (Base Volume Alternative)

***** Intersection #1 Silverado Trail/Sage Canyon Rd ***** Average Delay (sec/veh): 416.6 Worst Case Level Of Service: F[3985.4] *****

Table with 4 columns: North Bound, South Bound, East Bound, West Bound. Rows include Movement, Control, Rights, and Lanes.

Volume Module: Table with 12 columns representing different traffic scenarios. Rows include Base Vol, Growth Adj, Initial Bse, User Adj, PHF Adj, PHF Volume, Reduct Vol, and Final Volume.

Critical Gap Module: Table with 12 columns. Rows include Critical Gp and FollowUpTim.

Capacity Module: Table with 12 columns. Rows include Cnflct Vol, Potent Cap., Move Cap., and Volume/Cap.

Level Of Service Module: Table with 12 columns. Rows include 2Way95thQ, Control Del, LOS by Move, Movement, Shared Cap., SharedQueue, Shrd ConDel, Shared LOS, ApproachDel, and ApproachLOS.

Note: Queue reported is the number of cars per lane. *****

2030 Friday Summer PM
without Project

Level Of Service Computation Report
2000 HCM Unsignalized Method (Base Volume Alternative)

Intersection #1 Silverado Trail/Sage Canyon Rd

Average Delay (sec/veh): 414.3 Worst Case Level Of Service: F[3980.5]

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Uncontrolled			Uncontrolled			Stop Sign			Stop Sign		
Rights:	Include			Include			Include			Include		
Lanes:	1	0	0	1	0	0	0	0	1	0	0	1

Volume Module:

Base Vol:	0	515	55	211	1378	2	3	0	3	95	2	90
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	515	55	211	1378	2	3	0	3	95	2	90
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.90	0.90	0.90	0.95	0.95	0.95	0.33	0.33	0.33	0.70	0.70	0.70
PHF Volume:	0	572	61	222	1451	2	9	0	9	136	3	129
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	0	572	61	222	1451	2	9	0	9	136	3	129

Critical Gap Module:

Critical Gp:	xxxxx	xxxx	xxxxx	4.1	xxxx	xxxxx	7.1	6.5	6.2	7.1	6.5	6.2
FollowUpTim:	xxxxx	xxxx	xxxxx	2.2	xxxx	xxxxx	3.5	4.0	3.3	3.5	4.0	3.3

Capacity Module:

Cnflict Vol:	xxxx	xxxx	xxxxx	633	xxxx	xxxxx	2564	2529	1452	2503	2500	603
Potent Cap.:	xxxx	xxxx	xxxxx	954	xxxx	xxxxx	18	28	162	20	29	501
Move Cap.:	xxxx	xxxx	xxxxx	954	xxxx	xxxxx	10	21	162	15	22	501
Volume/Cap:	xxxx	xxxx	xxxx	0.23	xxxx	xxxx	0.93	0.00	0.06	8.96	0.13	0.26

Level Of Service Module:

2Way95thQ:	xxxx	xxxx	xxxxx	0.9	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
Control Del:	xxxxx	xxxx	xxxxx	9.9	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
LOS by Move:	*	*	*	A	*	*	*	*	*	*	*	*
Movement:	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	19	xxxxx	xxxx	29	xxxxx
SharedQueue:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	2.6	xxxxx	xxxxx	32.8	xxxxx
Shrd ConDel:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	488	xxxxx	xxxxx	3981	xxxxx
Shared LOS:	*	*	*	*	*	*	*	F	*	*	F	*
ApproachDel:	xxxxxxx			xxxxxxx			488.2			3980.5		
ApproachLOS:	*			*			F			F		

Note: Queue reported is the number of cars per lane.

2030 Saturday Summer PM with Project

Level Of Service Computation Report 2000 HCM Unsignalized Method (Base Volume Alternative)

Intersection #1 Silverado Trail/Sage Canyon Rd
Average Delay (sec/veh): 133.9 Worst Case Level Of Service: F[1139.9]
Approach: North Bound South Bound East Bound West Bound
Movement: L - T - R L - T - R L - T - R L - T - R
Control: Uncontrolled Uncontrolled Stop Sign Stop Sign
Rights: Include Include Include Include
Lanes: 1 0 0 1 0 1 0 0 1 0 0 0 0 0 1! 0 0 0 0 1! 0 0
Volume Module:
Base Vol: 7 704 37 109 800 8 3 0 7 104 2 104
Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Initial Bse: 7 704 37 109 800 8 3 0 7 104 2 104
User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
PHF Adj: 0.85 0.85 0.85 0.94 0.94 0.94 0.44 0.44 0.44 0.85 0.85 0.85
PHF Volume: 8 828 44 116 851 9 7 0 16 122 2 122
Reduct Vol: 0
FinalVolume: 8 828 44 116 851 9 7 0 16 122 2 122
Critical Gap Module:
Critical Gp: 4.1 xxxx xxxxx 4.1 xxxx xxxxx 7.1 6.5 6.2 7.1 6.5 6.2
FollowUpTim: 2.2 xxxx xxxxx 2.2 xxxx xxxxx 3.5 4.0 3.3 3.5 4.0 3.3
Capacity Module:
Cnflct Vol: 860 xxxx xxxxx 872 xxxx xxxxx 2016 1975 855 1962 1958 850
Potent Cap.: 790 xxxx xxxxx 782 xxxx xxxxx 44 63 361 48 64 363
Move Cap.: 790 xxxx xxxxx 782 xxxx xxxxx 25 53 361 40 54 363
Volume/Cap: 0.01 xxxx xxxxx 0.15 xxxx xxxxx 0.27 0.00 0.04 3.03 0.04 0.34
Level Of Service Module:
2Way95thQ: 0.0 xxxx xxxxx 0.5 xxxx xxxxx xxxx xxxx xxxxx xxxx xxxx xxxxx
Control Del: 9.6 xxxx xxxxx 10.4 xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move: A * * B * * * * * * * * * *
Movement: LT - LTR - RT LT - LTR - RT LT - LTR - RT LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx xxxx xxxx xxxxx xxxx 71 xxxxx xxxx 75 xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx 1.2 xxxxx xxxxx 25.1 xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx 77.5 xxxxx xxxxx 1140 xxxxx
Shared LOS: * * * * * * * * * * * * * * * *
ApproachDel: xxxxxx xxxxxx 77.5 1139.9
ApproachLOS: * * * * * * * * * * * * * * * *

Note: Queue reported is the number of cars per lane.

2030 Saturday Summer PM
without Project

Level Of Service Computation Report
2000 HCM Unsignalized Method (Base Volume Alternative)

Intersection #1 Silverado Trail/Sage Canyon Rd

Average Delay (sec/veh): 130.9 Worst Case Level Of Service: F[1117.3]

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Uncontrolled			Uncontrolled			Stop Sign			Stop Sign		
Rights:	Include			Include			Include			Include		
Lanes:	1	0	0	1	0	0	0	0	1	0	0	1

Volume Module:

Base Vol:	7	704	36	108	800	8	3	0	7	103	2	104
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	7	704	36	108	800	8	3	0	7	103	2	104
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.85	0.85	0.85	0.94	0.94	0.94	0.44	0.44	0.44	0.85	0.85	0.85
PHF Volume:	8	828	42	115	851	9	7	0	16	121	2	122
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	8	828	42	115	851	9	7	0	16	121	2	122

Critical Gap Module:

Critical Gp:	4.1	xxxx	xxxxx	4.1	xxxx	xxxxx	7.1	6.5	6.2	7.1	6.5	6.2
FollowUpTim:	2.2	xxxx	xxxxx	2.2	xxxx	xxxxx	3.5	4.0	3.3	3.5	4.0	3.3

Capacity Module:

Cnflct Vol:	860	xxxx	xxxxx	871	xxxx	xxxxx	2013	1972	855	1959	1955	849
Potent Cap.:	790	xxxx	xxxxx	783	xxxx	xxxxx	44	63	361	48	65	364
Move Cap.:	790	xxxx	xxxxx	783	xxxx	xxxxx	25	53	361	41	55	364
Volume/Cap:	0.01	xxxx	xxxx	0.15	xxxx	xxxx	0.27	0.00	0.04	2.98	0.04	0.34

Level Of Service Module:

2Way95thQ:	0.0	xxxx	xxxxx	0.5	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
Control Del:	9.6	xxxx	xxxxx	10.4	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
LOS by Move:	A	*	*	B	*	*	*	*	*	*	*	*
Movement:	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	72	xxxxx	xxxx	76	xxxxx
SharedQueue:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	1.2	xxxxx	xxxxx	24.9	xxxxx
Shrd ConDel:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	76.9	xxxxx	xxxxx	1117	xxxxx
Shared LOS:	*	*	*	*	*	*	*	F	*	*	F	*
ApproachDel:	xxxxxxx			xxxxxxx			76.9			1117.3		
ApproachLOS:	*			*			F			F		

Note: Queue reported is the number of cars per lane.
