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Traffic Impact Study

Maxville Lake Winery P17-00225-MOD & Conservation Regulations Exception P18-00189
Planning Commission Hearing August 1, 2018

Traffic Impact Study for the Maxville Lake Winery Use Permit Modification

Prepared for the County of Napa

Submitted by
W-Trans

February 13, 2018

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Executive Summary

The proposed project would update the current Conditional Use Permit for the Maxville Lake Winery to allow for an increase in visitation, employment, production, and marketing events. The project site is located on the west side of Chiles Pope Valley Road, approximately six miles north of its intersection with Sage Canyon Road in the County of Napa. The project would be expected to result in an additional 53 daily trips on average, including 21 trips during the weekday p.m. peak hour and 16 trips during the weekend midday peak hour; these trips represent the increase in traffic above current levels.

The study area includes the intersections of Silverado Trail with Deer Park Road and Sage Canyon Road. Analysis indicates that under Existing Conditions the study intersections are currently operating acceptably at LOS C or better overall during both peak hours; however, the Sage Canyon Road approach to Silverado Trail is operating at LOS F during the weekday p.m. peak hour. Upon the addition of project-related traffic, the study intersections would continue operating at the same levels of service and the project would be responsible for an increase that represents less than 10 percent of the existing p.m. peak hour traffic volumes on the Sage Canyon Road approach so the project's impact would be considered *less-than-significant* under the County's criterion.

Under Baseline Conditions, which includes traffic associated with known winery projects in the study area that are approved or pending, the study intersections would continue to operate at the same levels of service as under Existing Conditions. The addition of project-related traffic volumes would not change these service levels, and project traffic would still be responsible for less than 10 percent of the Baseline p.m. peak hour traffic volumes on the Sage Canyon Road approach to Silverado Trail so the project's impact would still be considered *less-than-significant*.

Under the anticipated Future volumes, Silverado Trail/Deer Park Road would deteriorate to LOS F during the weekday p.m. peak hour and LOS E during the weekend midday peak hour and Silverado Trail/Sage Canyon Road would deteriorate to LOS F overall during the weekday p.m. peak hour. Although these service levels are considered unacceptable, the project would contribute less than five percent of the anticipated increase in traffic volumes at Silverado Trail/Deer Park Road so the impact would be *less-than-significant* under the County's criterion. At Silverado Trail/Sage Canyon Road, however, the project would add more than the allowed five percent increase to the Sage Canyon Road approach which is considered a *significant* impact. To reduce this impact to *less-than-significant*, it is recommended that the winery schedule shifts so that no employees end their work day between 3:30 p.m. and 6:00 p.m. on weekdays to minimize outbound trips during the evening peak hour.

As proposed, no significant impacts were identified with 30-person events; however 100-person events would contribute volumes that represent more than 10 percent of the Existing and Baseline volumes on the Sage Canyon Road approach to Silverado Trail during the weekday p.m. peak hour, which indicates a *significant* impact since the approach is currently operating at LOS F. To reduce this impact to *less-than-significant*, it is recommended that the winery schedule events with 90- or 100-persons to conclude before 3:30 p.m. or after 6:00 p.m. on weekdays to also avoid generating outbound trips during the evening peak hour.

Pedestrian and transit facilities are adequate to serve the project site given the location and anticipated demand; however, the project should provide a minimum of two bicycle parking spaces on-site given the relatively high use of Chiles Pope Valley Road by cyclists. Adequate sight distance is available on Chiles Pope Valley Road at both the existing and proposed driveway locations and emergency access would operate acceptably. A left-turn lane would not be warranted at the existing access point and the need would be further reduced upon completion of the proposed second driveway.

Introduction

This report presents an analysis of the potential traffic impacts that would be associated with proposed modification of the Conditional Use Permit (CUP) for Maxville Lake Winery, which is located at 4105 Chiles Pope Valley Road in the County of Napa. The traffic study was completed in accordance with the criteria established by the County of Napa and the scope was developed based on direction from County staff as contained in a memorandum from Ms. Michelle Melonakis dated June 29, 2017. Approved projects in the Baseline Conditions analysis were included as requested by County staff.

Prelude

The purpose of a traffic impact study is to provide Napa County staff and policy makers with data that they can use to make an informed decision regarding the potential traffic impacts of a proposed project, and any associated improvements that would be required to mitigate these impacts to a level of insignificance as defined by the Napa's County General Plan or other policies. Vehicular traffic impacts are typically evaluated by determining the number of new trips that the proposed use would be expected to generate, distributing these trips to the surrounding street system based on existing travel patterns or anticipated travel patterns specific to the proposed project, then analyzing the impact the new traffic would be expected to have on critical intersections or roadway segments.

Project Profile

The proposed project is an update to the current Conditional Use Permit, approved in July 1998, to allow for an average of 20 visitors per day on weekdays and 60 visitors on weekend days. Additionally, the proposed permit would allow for an increase in production from 59,000 to 240,000 gallons per year and an increase in employees from seven full-time to 15 full-time and nine part-time during weekdays and seven full-time and four part-time during weekend days. The number of marketing events per year would be increased in order to attract visitors given that it attracts few drop-in tasting room guests due to its remote location. The proposed marketing program would include eight events per month for 30 guests, two events per month for 95 guests, and six events per year for 100 guests. Along with the proposed increase in visitation, employment, and production, the project would also provide a new entrance from Chiles Pope Valley Road with the intent to separate visitor traffic from employee/ truck traffic.

The project site is shown in Figure 1.

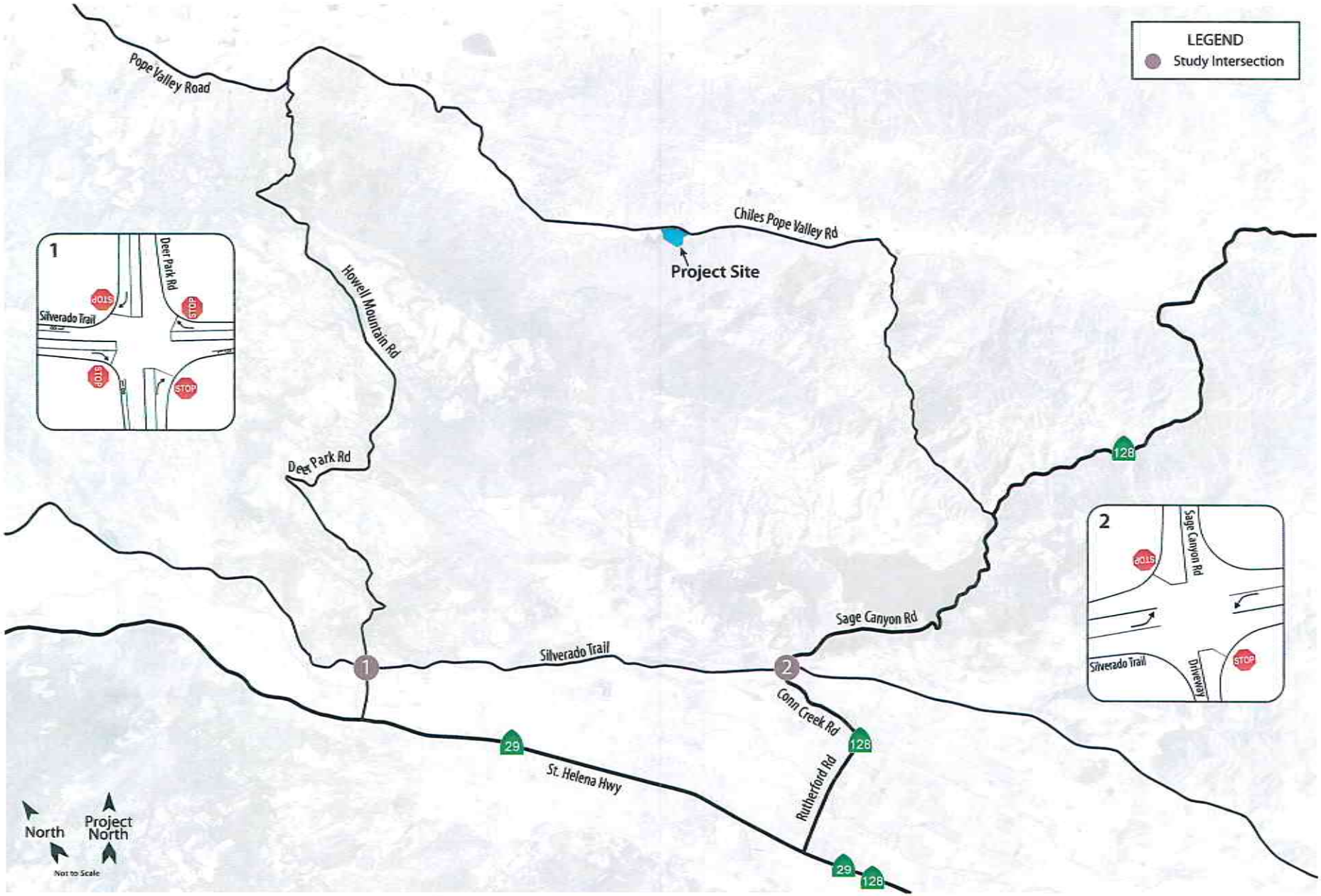

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Figure 1 – Study Area and Lane Configurations

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Transportation Setting

Operational Analysis

Study Area and Periods

The study area includes the project frontage on Chiles Pope Valley Road as well as the intersections of Silverado Trail with Deer Park Road and Sage Canyon Road. Operating conditions during the weekday p.m. and weekend midday peak periods were evaluated as these time periods reflect the highest traffic volumes area wide and for the proposed project. The weekday evening peak hour occurs between 4:00 and 6:00 p.m. and typically reflects the highest level of congestion of the day during the homeward bound commute, while the weekend midday peak occurs between 12:00 and 4:00 p.m. on Saturday afternoon.

Study Intersections

Silverado Trail runs on somewhat of a diagonal alignment in the study area and is oriented northwest-southeast. Because of this skewed alignment, for purposes of this evaluation Silverado Trail was assumed to run east-west and Deer Park Road and Sage Canyon Road were assumed to run north-south.

Silverado Trail/Deer Park Road is an all-way stop-controlled intersection with stop signs and flashing red lights on all four approaches.

Silverado Trail/Sage Canyon Road is an unsignalized tee-intersection stop-controlled on the terminating southbound Sage Canyon Road approach. The south leg is a private driveway to Conn Creek Winery.

The locations of the study intersections and the existing lane configurations and controls are shown in Figure 1.

Study Roadway

Chiles Pope Valley Road is a rural two-lane roadway that winds its way north-south from Sage Canyon Road on the south to Howell Mountain Road on the north. The roadway is approximately 28 feet wide adjacent to the site and includes two 11-foot travel lanes and three-foot shoulders. The roadway does not have a posted speed limit so the *prima facie* speed limit of 55 miles per hour (mph) applies, though it is noted that much of the roadway has a posted advisory speed of 25 mph due to the presence of sharp curves and there is a posted advisory speed of 45 mph that applies to the horizontal curve located approximately 500 feet north of the existing driveway. Based on traffic counts collected in October 2017 during harvest, the ADT adjacent to the site is approximately 975 on weekdays and 1,000 on weekend days.

Collision History

The collision history for the study area was reviewed to determine any trends or patterns that may indicate a safety issue. Collision rates were calculated based on records available from the California Highway Patrol as published in their Statewide Integrated Traffic Records System (SWITRS) reports. The most current five-year period available is January 1, 2012 through December 31, 2016.

As presented in Table 1, the calculated collision rates for the study intersections were compared to average collision rates for similar facilities statewide, as indicated in *2013 Collision Data on California State Highways*, California Department of Transportation (Caltrans). The intersection of Silverado Trail/Deer Park Road had a calculated collision rate below the statewide average indicating that there are no readily apparent safety issues,

but Silverado Trail/Sage Canyon Road had a collision rate above the statewide average which warranted further analysis. The collision rate calculations are provided in Appendix A.

Table 1 – Collision Rates at the Study Intersections

Study Intersection	Number of Collisions (2012-2016)	Calculated Collision Rate (c/mve)	Statewide Average Collision Rate (c/mve)
1. Silverado Trail/Deer Park Rd	5	0.20	0.41
2. Silverado Trail/Sage Canyon Rd	12	**0.45**	0.23

Note: c/mve = collisions per million vehicles entering

Further review of the 12 individual collisions that occurred at Silverado Trail/Sage Canyon Road revealed that four involved drivers turning out of Sage Canyon Road, three involved vehicles turning left onto Sage Canyon Road behind hit by an oncoming through vehicle, three were rear-ends and two involved a single vehicle. Although the crash rate was above average, only 25.0 percent of the crashes resulted in injuries, compared to a Statewide average of 40.4 percent for similar facilities. Given that there was not a specific trend and the injury rate was below-average, no remedial actions are suggested.

Alternative Modes

Pedestrian Facilities

Pedestrian facilities include sidewalks, crosswalks, pedestrian signal phases, curb ramps, curb extensions, and various streetscape amenities such as lighting, benches, etc. As might be expected given the rural location of the project site, a connected pedestrian network is lacking, though such facilities would not be appropriate in this setting.

Bicycle Facilities

The *Highway Design Manual*, Caltrans, 2012, classifies bikeways into three categories:

- **Class I Multi-Use Path** – a completely separated right-of-way for the exclusive use of bicycles and pedestrians with cross flows of motorized traffic minimized.
- **Class II Bike Lane** – a striped and signed lane for one-way bike travel on a street or highway.
- **Class III Bike Route** – signing only for shared use with motor vehicles within the same travel lane on a street or highway.

Chiles Pope Valley Road is regularly used by recreational cyclists and is featured on the Napa Valley Bike Tours map. The section that runs along the project frontage is considered a Class III bike route and there are existing "Bike Route" signs posted at Lower Chiles Valley Road in the northbound direction and near the proposed secondary access point in the southbound direction. The *Napa County Bicycle Plan* identifies no other planned bicycle improvement projects at this time.

Transit Facilities

Transit Services throughout Napa County are provided by Napa Valley Transit (VINE). There are no VINE stops within one-quarter of a mile of the project site.

Capacity Analysis

Intersection Level of Service Methodology

Level of Service (LOS) is used to rank traffic operation on various types of facilities based on traffic volumes and roadway capacity using a series of letter designations ranging from A to F. Generally, Level of Service A represents free flow conditions and Level of Service F represents forced flow or breakdown conditions. A unit of measure that indicates a level of delay generally accompanies the LOS designation.

The study intersections were analyzed using methodologies published in the *Highway Capacity Manual* (HCM), Transportation Research Board, 2010. This source contains methodologies for various types of intersection control, all of which are related to a measurement of delay in average number of seconds per vehicle.

The Levels of Service for the intersection of Silverado Trail/Sage Canyon Road, which has side-street stop controls, were analyzed using the "Two-Way Stop-Controlled" intersection capacity method from the HCM. This methodology determines a level of service for each minor turning movement by estimating the level of average delay in seconds per vehicle. Results are presented for individual movements together with the weighted overall average delay for the intersection.

The study intersection of Silverado Trail/Deer Park Road has stop signs on all approaches, and was analyzed using the "All-Way Stop-Controlled" Intersection methodology from the HCM. This methodology evaluates delay for each approach based on turning movements, opposing and conflicting traffic volumes, and the number of lanes. Average vehicle delay is computed for the intersection as a whole, and is then related to a Level of Service.

The ranges of delay associated with the various levels of service are indicated in Table 2.

Table 2 – Intersection Level of Service Criteria

LOS	Two-Way Stop-Controlled	All-Way Stop-Controlled
A	Delay of 0 to 10 seconds. Gaps in traffic are readily available for drivers exiting the minor street.	Delay of 0 to 10 seconds. Upon stopping, drivers are immediately able to proceed.
B	Delay of 10 to 15 seconds. Gaps in traffic are somewhat less readily available than with LOS A, but no queuing occurs on the minor street.	Delay of 10 to 15 seconds. Drivers may wait for one or two vehicles to clear the intersection before proceeding from a stop.
C	Delay of 15 to 25 seconds. Acceptable gaps in traffic are less frequent, and drivers may approach while another vehicle is already waiting to exit the side street.	Delay of 15 to 25 seconds. Drivers will enter a queue of one or two vehicles on the same approach, and wait for vehicle to clear from one or more approaches prior to entering the intersection.
D	Delay of 25 to 35 seconds. There are fewer acceptable gaps in traffic, and drivers may enter a queue of one or two vehicles on the side street.	Delay of 25 to 35 seconds. Queues of more than two vehicles are encountered on one or more approaches.
E	Delay of 35 to 50 seconds. Few acceptable gaps in traffic are available, and longer queues may form on the side street.	Delay of 35 to 50 seconds. Longer queues are encountered on more than one approach to the intersection.
F	Delay of more than 50 seconds. Drivers may wait for long periods before there is an acceptable gap in traffic for exiting the side streets, creating long queues.	Delay of more than 50 seconds. Drivers enter long queues on all approaches.

Reference: *Highway Capacity Manual,* Transportation Research Board, 2010

Traffic Operation Standards

Napa County

In the Circulation Element of the *Napa County General Plan*, the following policies have been adopted:

- **Policy CIR-13** – *The County seeks to provide a roadway system that maintains current roadway capacities in most locations and is both safe and efficient in terms of providing local access.*

- **Policy CIR-16** – *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 the installation of more travel lanes than shown on the Circulation Map.* SR 29 is shown as a 2-lane Rural Throughway on the Circulation Map (Figure CIR-1).

- **Policy CIR-18** – *Traffic safety and adequate local access will be priorities on roadway segments and at signalized intersections where Level of Service D or better cannot be achieved. Therefore, proposed capital improvements and development projects in these areas shall be evaluated to determine their effect on safety or local access. Projects that improve safety, improve local access, or alleviate congestion will be prioritized.*

In an effort to provide a more quantitative method of adhering to the above standards, the County refers to *Guidelines for Interpretation of General Plan Circulation Policies on Significance Criteria* (Fehr & Peers, 2015). The document establishes thresholds of significance for road segments and different intersection control types. The memorandum states a project would cause a significant impact requiring mitigation if, for existing conditions:

- *A signalized intersection operates at LOS A, B, C, or D during the selected peak hours without Project trips, and the LOS deteriorates to LOS E or F with the addition of Project trips; or*

- *A signalized intersection operates at LOS E or F during the selected peak hours without Project trips, and the addition of Project trips increases the total entering volume by one percent or more.*
  - *Project Contribution % = Project Trips ÷ Existing Volumes*

- *An unsignalized intersection operates at LOS A, B, C, or D during the selected peak hours without Project trips, and the LOS deteriorates to LOS E or F with the addition of Project traffic; the peak hour traffic signal warrant criteria should also be evaluated and presented for informational purposes; or*

- *An unsignalized intersection operates at LOS E or F during the selected peak hours without Project trips, and the project contributes one percent or more of the total entering traffic for all-way stop-controlled intersections, or ten percent or more of the traffic on a side-street approach for side-street stop-controlled intersections; the peak hour traffic signal criteria should also be evaluated and presented for informational purposes. Both of those volumes are for the stop-controlled approaches only. Each stop-controlled approach that operates at LOS E or F should be analyzed individually*
  - *<u>All-Way Stop-Controlled Intersections</u> – The following equation should be used if the all-way stop-controlled intersection operates at LOS E or F without the Project:*
    - *Project Contribution % = Project Trips ÷ Existing Volumes*
  - *<u>Side-Street Stop-Controlled Intersections</u> – The following equation should be used if the side-street stop-controlled intersection operates at LOS E or F without the Project:*
    - *Project Contribution % = Project Trips ÷ Existing Volumes*

- *An arterial segment operates at LOS A, B, C or D during the selected peak hours without Project trips, and deteriorates to LOS E or F with the addition of Project trips; or*

- *An arterial segment operates at LOS E or F during the selected peak hours without Project trips, and the addition of Project trips increases the total segment volume by one percent or more. The following equation should be used if the arterial segment operates at LOS E or F without the Project:*
  - *Project Contribution % = Project Trips ÷ Existing Volumes*

Further, a project would cause a significant impact requiring mitigation if, for cumulative (future) conditions, the Project's volume is equal to, or greater than five percent of the difference between cumulative (future) and existing volumes.

- *Cumulative Conditions – A Project's contribution to a cumulative condition would be calculated as the Project's percentage contribution to the total growth in traffic. This calculation applies to arterials, signalized intersections, and unsignalized intersections.*
  - *Project Contribution % = Project Trips ÷ (Cumulative Volumes – Existing Volumes)*

Existing Conditions

The Existing Conditions scenario provides an evaluation of current operation based on existing traffic volumes during the weekday p.m. and weekend midday peak periods. This condition includes traffic associated with current CUP. Volume data was collected in October 2017 during typical harvest season winery operations. It is noted that the counts were obtained after the wildfires, but as late in October as possible to still reflect harvest conditions while allowing traffic levels to return to normalize after the fires. Peak hour factors (PHF's) were calculated based on the counts obtained and used in the levels of service calculations, unless the calculated PHF was less than 0.90 in which case 0.90 was used as a "floor."

Intersection Levels of Service

Under Existing Conditions the study intersections are operating acceptably at LOS C or better overall during both peak hours; however the stop-controlled Sage Canyon approach to Silverado Trail is operating at LOS F during the weekday p.m. peak hour. The Existing traffic volumes are shown in Figure 2 and a summary of the intersection level of service calculations is contained in Table 3. Copies of the Level of Service calculations for all evaluated scenarios are provided in Appendix B.

Table 3 – Existing Peak Hour Intersection Levels of Service

Study Intersection	Weekday PM Peak		Weekend MD Peak	
Approach	Delay	LOS	Delay	LOS
1. Silverado Trail/Deer Park Rd	20.8	C	15.2	C
2. Silverado Trail/Sage Canyon Rd	14.4	B	2.7	A
Southbound (Sage Canyon Rd) Approach	**	***F***	*16.1*	*C*

Notes: Delay is measured in average seconds per vehicle; LOS = Level of Service; Delay for side-street stop-controlled movements shown in *italics;* ** = delay greater than 120 seconds; **Bold** text = deficient operation

Baseline Conditions

Baseline operating conditions were assessed to reflect the addition of traffic associated with known winery projects in the study area that are approved or pending and would potentially be operational within the next two to three years. County Staff identified the following projects to be included in this scenario.

- Dakota Shy Winery – A major Use Permit Modification to the existing winery located on the west side of Sage Canyon Road and on the east side of Silverado Trail; the project would increase production from 1,000 to

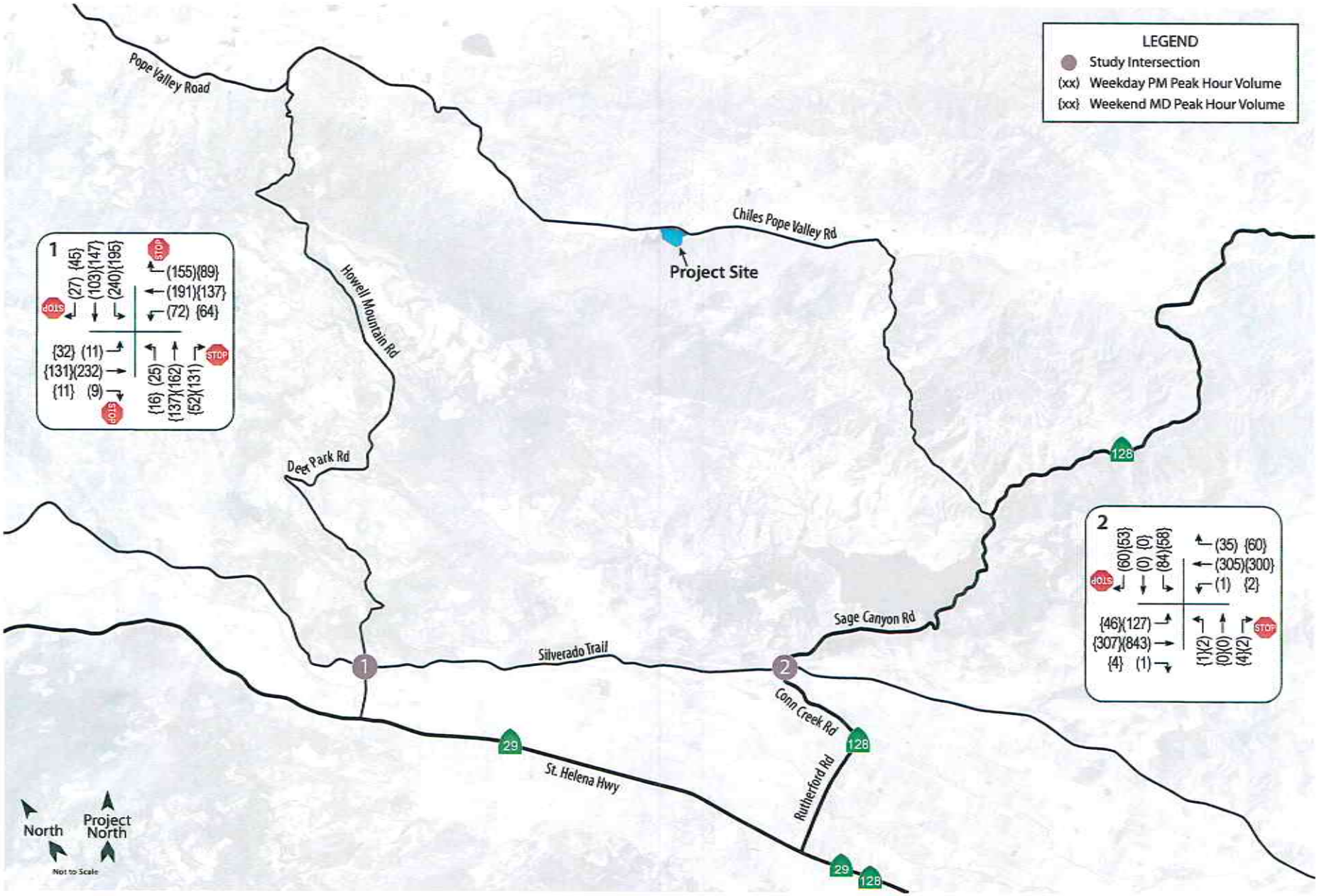

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Figure 2 – Existing Traffic Volumes

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14,000 gallons annually and allow for tours and tastings by appointment only as well as two marketing events per year. As contained in the traffic study prepared by Crane Transportation Group, the project is expected to generate three trips during each of the weekday p.m. and weekend midday peak hours. The same trip distribution assumptions used in the traffic study for the project were used in this analysis which resulted in two and three new trips to Silverado Trail/Sage Canyon Road during the weekday evening and weekend midday peak hours, respectively.

- **Castlevale Winery** – A pending new winery, currently under review by the Public Works Department and Planning, Building, and Environmental Services (PBES) that would be located at 3450 Chiles Pope Valley Road approximately two miles southeast of Maxville Lake Winery. The project would include a winery with a maximum production of up to 30,000 gallons per year along with tasting room visitation and marketing events. As contained in the Winery Traffic Information/Trip Generation Sheet submitted with the application, the project is expected to generate eight trips during the weekday p.m. peak hour and ten trips during the weekend midday peak hour. A traffic impact study was not completed for the project so due to the close proximity to Maxville Lake Winery, the same trip distribution assumptions used in this analysis (detailed later in this report) were applied.

- **Norman Alumbaugh Winery** – An approved new winery to be located at 1996 Pope Canyon Road that would have a maximum production of 50,000 gallons annually, tasting room visitors, and marketing events. A traffic impact study was not prepared, but according to the Traffic Information form submitted with the application the project is expected to generate ten trips during the weekday p.m. peak hour and 35 trips during the weekend midday peak hour. Since trips originating from north of SR 128 would likely access the site via Deer Park Road and traffic coming from south of SR 128 would use Sage Canyon Road, a distribution of 50 percent via both Deer Park Road and Sage Canyon Road was applied.

- **Aloft Winery** – A pending new winery, currently under review by the Public Works Department and PBES, that would be located at the end of Cold Springs Road in the community of Angwin. The project would include a winery with a maximum production of 50,000 gallons annually and allow for tasting room visitors and marketing events. As contained in the traffic study prepared by Crane Transportation Group, the project is expected to generate four trips during the weekday p.m. peak hour and two trips during the weekend midday peak hour. The same trip distribution assumptions used in the traffic study for the project were used in this analysis which resulted in all of the trips passing through the Silverado Trail/Deer Park Road intersection.

- **Diogenes Ridge Winery** – An approved new winery to be located on Brookside Drive in the community of Angwin that would have a maximum production of 30,000 gallons annually and allow for tours and tastings by appointment only as well as up to 41 marketing events per year. As contained in the Transportation/Traffic section of the Initial Study Checklist that was prepared for the project, the winery is expected to generate 13 trips during the weekday p.m. peak hour and 18 trips during the weekend midday peak hour. Due to the project's location on the east side of Howell Mountain Road it was assumed that all of the trips would pass though the Silverado Trail/Deer Park Road intersection and approximately one-third of the trips would pass through Silverado Trail/Sage Canyon Road when traveling to/from the southern part of Napa Valley.

Intersection Levels of Service

The anticipated traffic associated with these approved and pending projects was added to the volumes analyzed in the Existing Conditions scenario in order to determine Baseline (Existing plus Approved Projects) volumes. Under these conditions, the study intersections are projected to continue operating acceptably overall during both peak hours and the Sage Canyon Road approach at Silverado Trail/Sage Canyon Road would be expected to continue operating at LOS F. Baseline volumes are shown in Figure 3 and resulting intersection levels of service are summarized in Table 4.

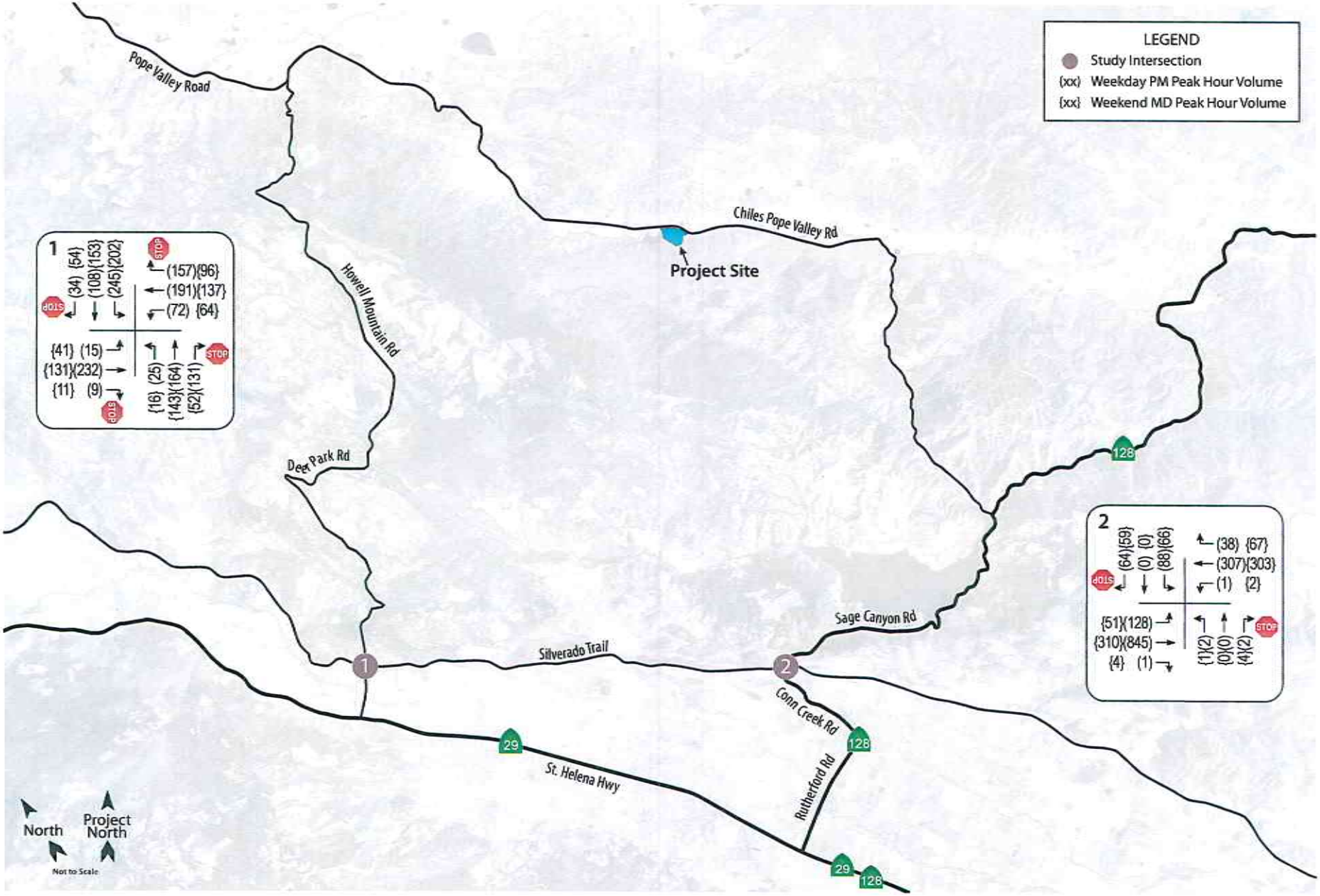

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Figure 3 – Baseline Traffic Volumes

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Table 4 – Baseline Peak Hour Intersection Levels of Service				
Study Intersection	**Weekday PM Peak**		**Weekend MD Peak**	
Approach	**Delay**	**LOS**	**Delay**	**LOS**
1. Silverado Trail/Deer Park Rd	21.9	C	16.1	C
2. Silverado Trail/Sage Canyon Rd	17.6	C	3.0	A
Southbound (Sage Canyon Rd) Approach	**	***F***	*17.0*	*C*

Notes: Delay is measured in average seconds per vehicle; LOS = Level of Service; Delay for side-street stop-controlled movements shown in *italics;* ** = delay greater than 120 seconds; **Bold** text = deficient operation

Future Conditions

Future volumes for the horizon year 2040 were calculated based on output from the *Napa Solano Travel Demand Model*, maintained by the Solano Transportation Authority (STA). Base year (2015) and future (2040) segment volumes for the weekday p.m. peak period were used to calculate growth factors for the study intersections.

The growth factors projected by the model were then adjusted to account for the two years of growth that has already occurred since 2015 and the existing counts multiplied by the growth factor to project likely Future weekday p.m. turning movement volumes at the study intersections. The same growth factors used for the weekday p.m. peak hour were used for the weekend midday peak hour as the model does not contain information for weekend days. It is noted that the model is projecting substantial increases in traffic volumes in the area resulting in a growth factor of 1.4 for Silverado Trail/Deer Park Road and 1.5 for Silverado Trail/Sage Canyon Road.

Intersection Levels of Service

As might be expected given the large increase projected by the model, the study intersections are expected to deteriorate to LOS E or F during both peak hours with the exception of Silverado Trail/Sage Canyon Road during the weekend midday peak hour, which would be expected to operate at LOS A overall and LOS D on the Sage Canyon Road approach. It is noted that the delays calculated for Silverado Trail/Sage Canyon Road during the weekday p.m. peak hour are well above 120 seconds and indicate that the theoretical results are unreliable. Future operating conditions are summarized in Table 5 and volumes are shown in Figure 4.

Table 5 – Future Peak Hour Intersection Levels of Service				
Study Intersection	**Weekday PM Peak**		**Weekend MD Peak**	
Approach	**Delay**	**LOS**	**Delay**	**LOS**
1. Silverado Trail/Deer Park Rd	**66.7**	**F**	**37.1**	**E**
2. Silverado Trail/Sage Canyon Rd	**	**F**	4.4	A
Southbound (Sage Canyon Rd) Approach	**	***F***	*28.6*	*D*

Notes: Delay is measured in average seconds per vehicle; LOS = Level of Service; Delay for side-street stop-controlled movements shown in *italics;* ** = delay greater than 120 seconds; **Bold** text = deficient operation

Project Description

Current Approved Permit

The current Use Permit for Maxville Lake Winery was approved in July 1998 and authorized the following activities:

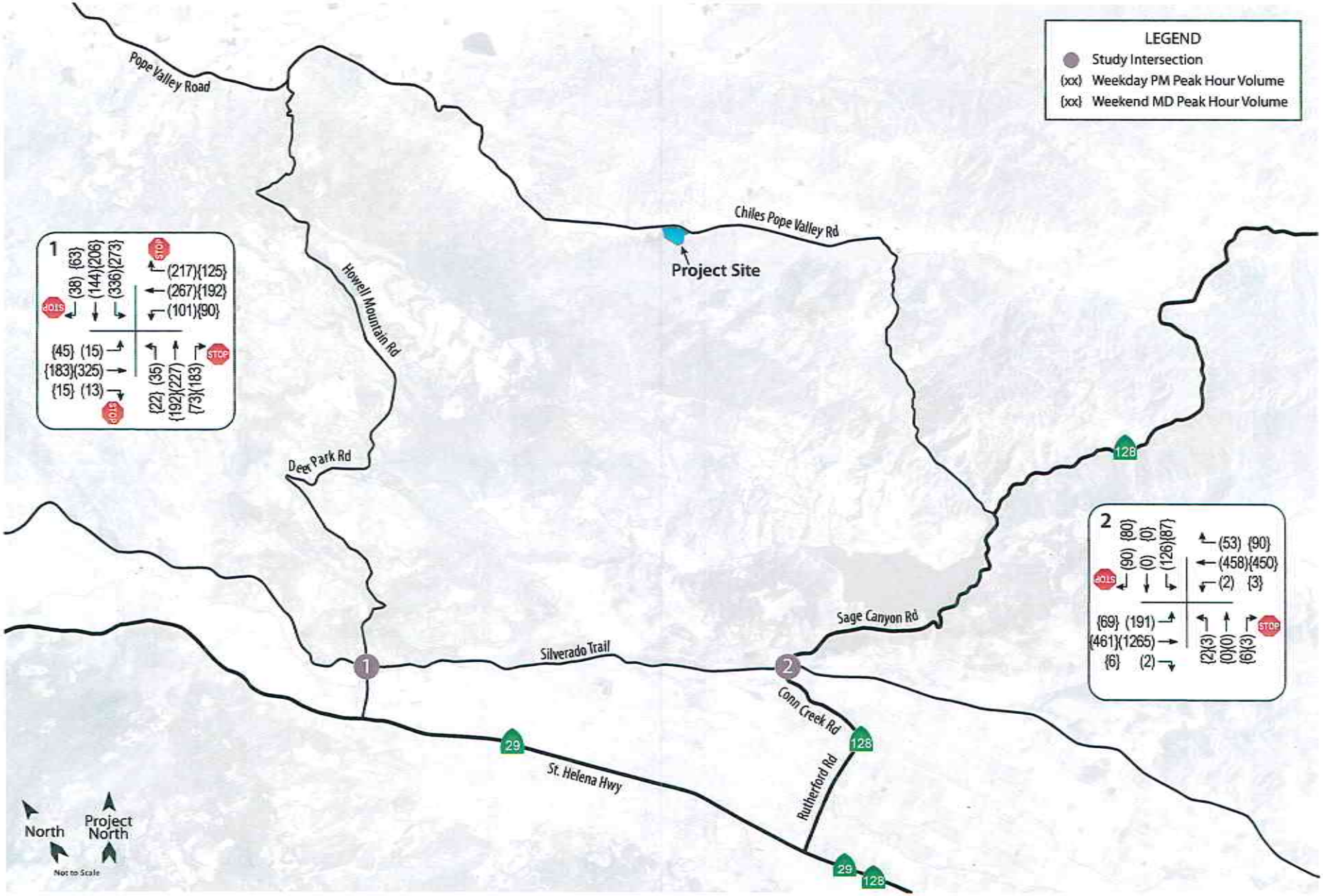

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Figure 4 – Future Traffic Volumes

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- Conversion of an existing lodge building to a winery;
- An average annual production of 59,000 gallons over any three-year period, not to exceed 65,000 gallons in any one year;
- An average of 10 visitors per day, not to exceed 30 visitors on weekend days; and
- A marketing program consisting of four events per year for 75 guests.

Proposed Modification

The proposed project would include the following activities that affect daily trip generation:

- An increase in production from 59,000 to 240,000 gallons annually;
- An increase in average weekday visitation from 10 to 20;
- An increase in the maximum daily weekend visitation from 30 to 60;
- An increase in the number of employees during typical operation from seven full-time to 15 full-time and nine part-time during weekdays and seven full-time and four part-time during weekend days;
- An increase in the number of employees on a Crush Saturday from seven full-time to 12 full-time and four part-time staff; and
- A marketing program consisting of eight events per month for 30 guests, two events per month for 95 guests, and six events per year for 100 guests.

The proposed site plan is shown in Figure 5.

Trip Generation

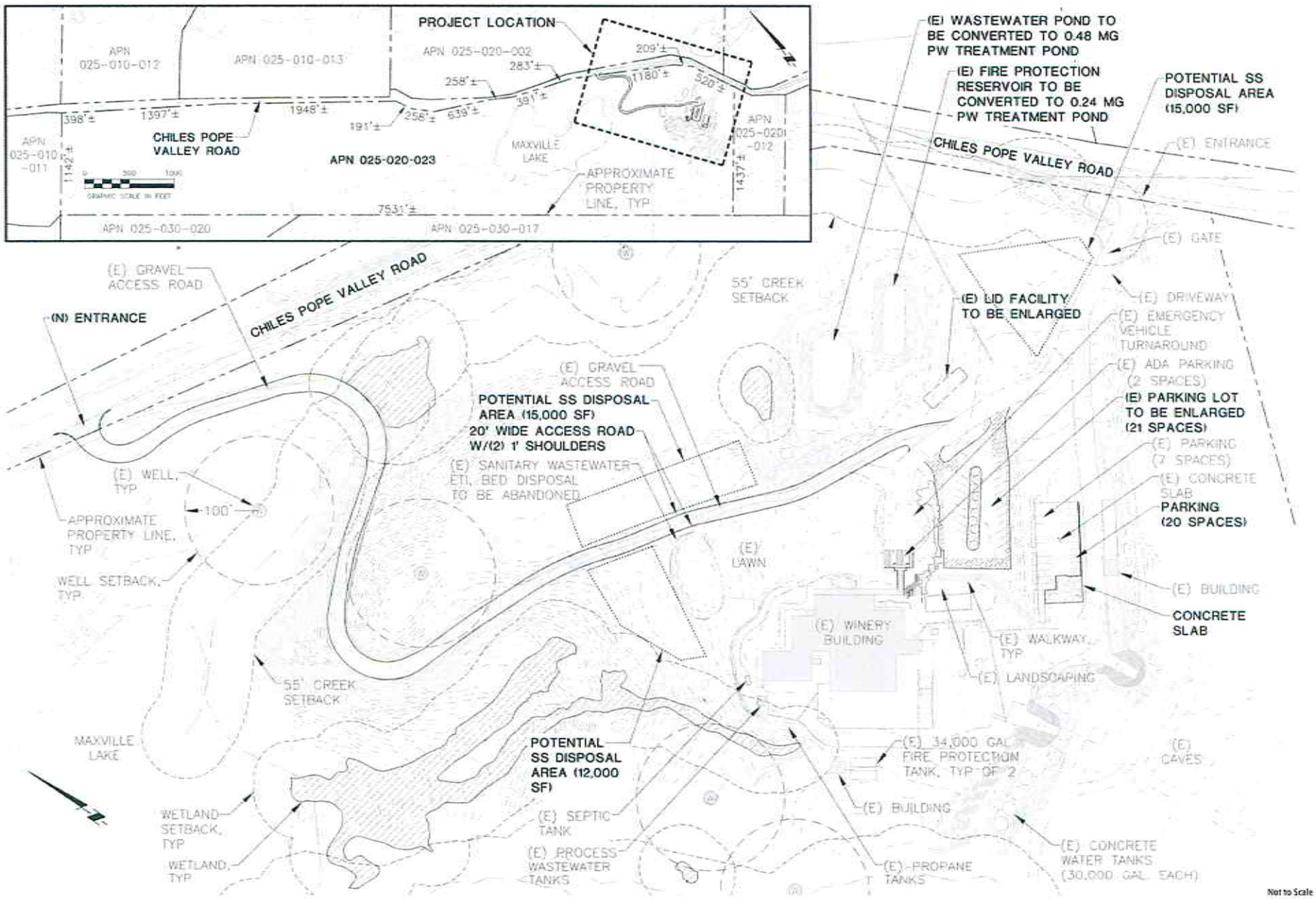
Typical Operation

The County of Napa's Winery Traffic Information/Trip Generation Sheet was used to determine the anticipated trip generation for the permitted and proposed conditions. The form estimates the number of daily and peak hour trips for weekdays and Saturdays based on the number of full- and part-time employees, average daily visitors, and production. This source does not include guidance on inbound versus outbound trips, so based on extensive data collected at a tasting facility in Sonoma County it was assumed that two-thirds of trips at the winery would be outbound during the weekday p.m. peak hour as employees and customers leave at closure of the winery; for the weekend midday peak hour it was assumed that inbound and outbound trips would be evenly split.

Based on application of these assumptions, with the modification, all of the activities allowed under the Use Permit would be expected to generate an average of 83 trips during a typical weekday, with 32 trips occurring during the evening peak hour; 41 trips would be expected to be generated during the weekend midday peak hour. As shown in Table 6, this would result in a net increase of 53 trips per weekday, 21 trips during the weekday p.m. peak hour, and 16 trips during the weekend midday peak hour; these trips represent the increase in traffic associated with the proposed Use Permit compared to currently permitted conditions. The Winery Traffic Information/Trip Generation Sheets for both permitted and proposed conditions are contained in Appendix C.

Table 6 – Trip Generation Summary

Condition	Weekday	Weekday PM Peak Hour			Weekend MD Peak Hour		
	Trips	Trips	In	Out	Trips	In	Out
Permitted	30	11	4	7	25	12	13
Proposed	83	32	11	21	41	20	21
Net New Trips	**53**	**21**	**7**	**14**	**16**	**8**	**8**



Not to Scale

Source: Summit Engineering, Inc. 5/17

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Traffic Impact Study for the Maxville Lake Winery Use Permit Modification

Figure 5 – Site Plan

Harvest Conditions

Traffic that would occur during a Crush Saturday was also tabulated, as shown in Table 7. The modified Use Permit would be expected to result in an average of 58 additional daily trips during a Crush Saturday including 33 trips during the peak hour; these trips represent the increase in traffic associated with the proposed use permit compared to currently permitted conditions.

Table 7 – Trip Generation Summary – Crush Saturday

Condition	Daily	Weekend MD Peak Hour		
	Trips	Trips	In	Out
Permitted	54	31	15	16
Proposed	112	64	32	32
Net New Trips	**58**	**33**	**17**	**16**

Marketing Events

In addition to typical daily and Crush Saturday operations, the anticipated trip generations for events with 30 and 100 guests were also estimated, as shown in Table 8. Using the County's Winery Traffic Information/Trip Generation Form, a 30-person event would be expected to generate 27 trips, including 21 trips for guests and six trips for employees and a 100-person marketing event would be expected to generate a total of 85 trips, including 71 trips for guests and 14 trips for employees.

Table 8 – Trip Generation for Marketing Events

Event Size	Units	Total	PM Peak Hour			MD Peak Hour		
Trip Generator		Trips	Trips	In	Out	Trips	In	Out
30-Person Event								
Event Employees	3	6	-	-	-	0	0	0
Event Guests	30	21	-	-	-	11	11	0
30-Person Event Total		**27**	**-**	**-**	**-**	**11**	**11**	**0**
100-Person Event*								
Event Employees	7	14	0	0	0	0	0	0
Event Guests	100	71	36	0	36	36	36	0
100-Person Event Total		**85**	**36**	**0**	**36**	**36**	**36**	**0**

Note: *The tasting room would be closed to the general public during events of this size

Events with 30 guests would occur on weekdays and weekend days between the hours of 12:00 p.m. to 3:30 p.m. so no traffic would be generated during the weekday p.m. peak hour; however, during the weekend midday peak hour it was assumed that all guests would be traveling to the site before the start of an event. All 100-person events would be held on weekdays and weekend days between the hours of approximately 2 p.m. to 4 p.m. so for the purpose of estimating the peak hour trip generation it was assumed that all guests would be leaving the site during the evening peak hour on weekdays and all guests would be arriving to the site during the peak hour on weekend days. Event employees would arrive outside of the arrival and departure hours of the guests as they would be expected to be on-site for set-up and clean-up and are therefore not included in the peak hour totals. It should be noted that the tasting room would be closed to the general public during events with 95 or 100 persons.

Trip Distribution

The pattern used to allocate new project trips to the street network was determined by reviewing existing turning movements at the study intersections as well as anticipated travel patterns for patrons of the project. Because it provides a more direct route to the site, the vast majority of project patrons are expected to use Sage Canyon Road to access the site from the south. A distribution of 15 percent and 85 percent via Chiles Pope Valley Road to north and south, respectively, was applied. The trip distribution percentages are shown in Figure 6.

Intersection Operation

Existing plus Project Conditions

Upon the addition of project-related traffic to Existing volumes, the study intersection of Silverado Trail/Deer Park Road would be expected to continue operating acceptably at LOS C, while the minor street approach at Silverado Trail/Sage Canyon Road that operates at LOS F during the weekday evening peak hour under Existing Conditions would continue to do so. These results are summarized in Table 9 and Project traffic volumes are shown in Figure 6.

Table 9 – Existing and Existing plus Project Peak Hour Intersection Levels of Service

	Study Intersection *Approach*	**Existing Conditions**				**Existing plus Project**			
		Weekday PM Peak		**Weekend MD Peak**		**Weekday PM Peak**		**Weekend MD Peak**	
		Delay	**LOS**	**Delay**	**LOS**	**Delay**	**LOS**	**Delay**	**LOS**
1.	Silverado Trail/Deer Park Rd	20.8	C	15.2	C	20.9	C	15.4	C
2.	Silverado Trail/Sage Canyon Rd	14.4	B	2.7	A	18.9	C	2.9	A
	Southbound (Sage Canyon Rd) Approach	**	***F***	*16.1*	*C*	**	***F***	*16.5*	*C*

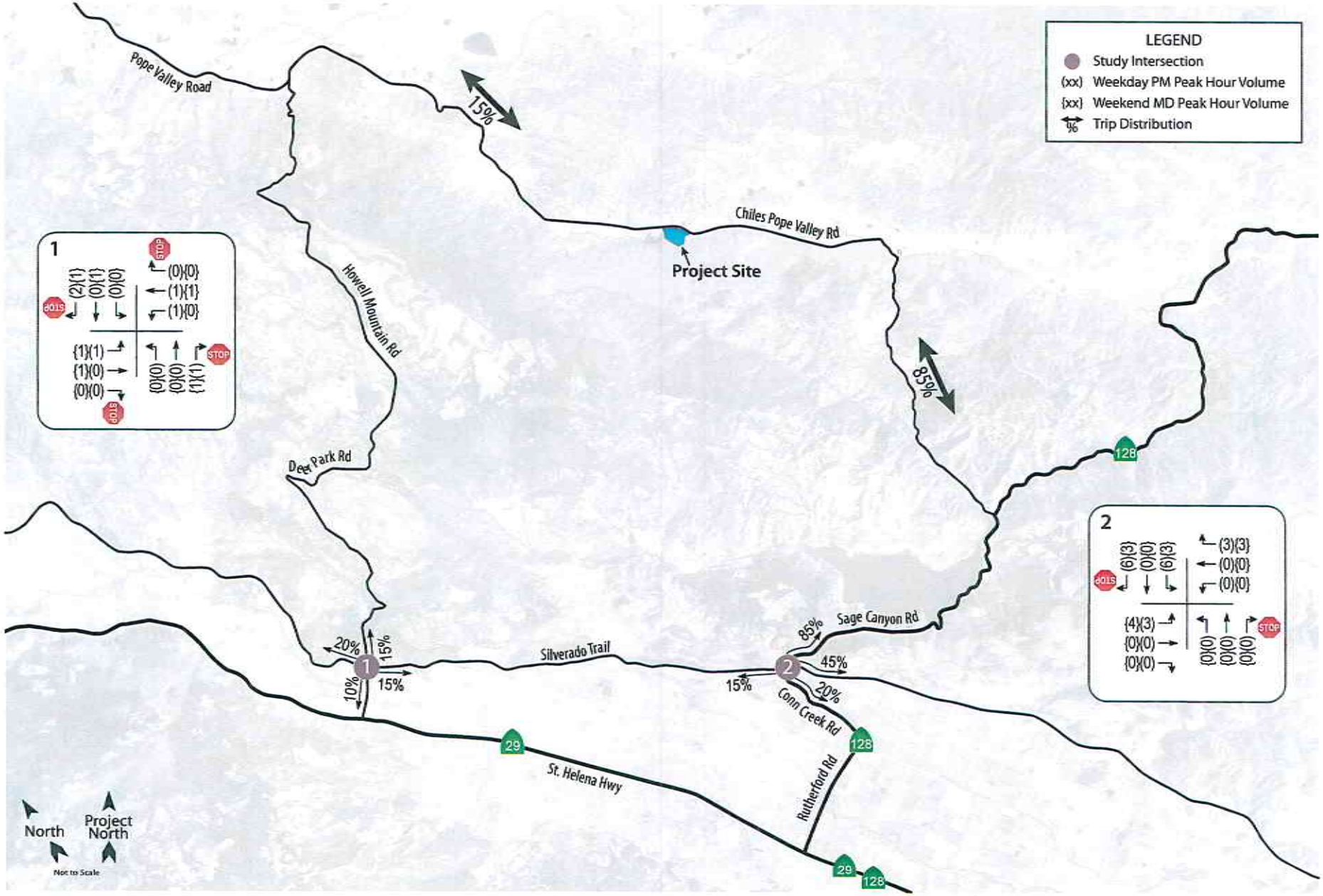
Notes: Delay is measured in average seconds per vehicle; LOS = Level of Service; Delay for side-street stop-controlled movements shown in *italics*; ** = delay greater than 120 seconds; **Bold** text = deficient

Finding – Silverado Trail/Deer Park Road would continue to operate at LOS C during both peak hours upon the addition of project related traffic, which is acceptable under the County's standards and the impact is therefore *less-than-significant*.

Silverado Trail/Sage Canyon Road would continue to operate at LOS A overall during the weekend midday peak hour and drop to LOS C overall during the weekday evening peak hour. Because the stop-controlled Sage Canyon Road approach is operating at LOS F during the weekday evening peak hour under Existing Conditions, the County's criterion was applied; for existing LOS F operation, the impact is considered significant if the project generates 10 percent or more of the traffic on that approach. The existing p.m. peak hour volume on the Sage Canyon Road approach is 144 trips and the project would contribute 12 trips, which is less than 10 percent of the total. This is therefore a *less-than-significant* impact.

Baseline plus Project Conditions

With project-related traffic added to Baseline volumes, the study intersections would be expected to continue operating at the same levels of service as under Baseline Conditions. These results are summarized in Table 10.



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Traffic Impact Study for the Maxville Lake Winery Use Permit Modification

Figure 6 – Project Traffic Volumes and Trip Distribution

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Table 10 – Baseline and Baseline plus Project Peak Hour Intersection Levels of Service

Study Intersection *Approach*	Baseline Conditions				Baseline plus Project			
	Weekday PM Peak		Weekend MD Peak		Weekday PM Peak		Weekend MD Peak	
	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS
1. Silverado Trail/Deer Park Rd	21.9	C	16.1	C	22.0	C	16.4	C
2. Silverado Trail/Sage Canyon Rd	17.6	C	3.0	A	22.2	C	3.2	A
Southbound (Sage Canyon Rd) Approach	**	***F***	*17.0*	*C*	**	***F***	*17.5*	*C*

Notes: Delay is measured in average seconds per vehicle; LOS = Level of Service; Delay for side-street stop-controlled movements shown in *italics*; ** = delay greater than 120 seconds; **Bold** text = deficient operation

Finding – The project's impact would be considered *less-than-significant* at the study intersection of Silverado Trail/ Deer Park Road as there is no change in service level, and although the Sage Canyon Road approach at Silverado Trail/Sage Canyon Road is operating at LOS F during weekday p.m. peak hour, the Baseline volumes on this approach would increase to 152 (from 144 under Existing volumes) and the project trips would remain at 12 so would still be less than the allowed 10 percent. The impact at this intersection is therefore also *less-than-significant*.

Future plus Project Conditions

Upon the addition of project-generated traffic to the anticipated Future volumes, the study intersections would continue operating at the same levels of service as without the project. The Future plus Project operating conditions are summarized in Table 11.

Table 11 – Future and Future plus Project Peak Hour Intersection Levels of Service

Study Intersection *Approach*	Future Conditions				Future plus Project			
	Weekday PM Peak		Weekend MD Peak		Weekday PM Peak		Weekend MD Peak	
	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS
1. Silverado Trail/Deer Park Rd	**66.7**	**F**	**37.1**	**E**	**67.2**	**F**	**37.2**	**E**
2. Silverado Trail/Sage Canyon Rd	**	**F**	4.4	A	**	**F**	4.7	A
Southbound (Sage Canyon Rd) Approach	**	***F***	*28.6*	*D*	**	***F***	*30.0*	*D*

Notes: Delay is measured in average seconds per vehicle; LOS = Level of Service; Delay for side-street stop-controlled movements shown in *italics*; ** = delay greater than 120 seconds; **Bold** text = deficient operation

Finding – The project's impact would be considered *less-than-significant* under County standards at Silverado Trail/Deer Park Road as the project would be responsible for less than five percent of the anticipated growth during each peak hour. County standards state that a project would cause a significant impact requiring mitigation if, for Future Conditions, the project's volume is equal to or greater than five percent of the difference between Existing and Future volumes. Since the project would be responsible for approximately 16.7 percent of the anticipated growth on the Sage Canyon Road approach to Silverado Trail during the evening peak hour, this would be considered a cumulatively considerable impact.

Recommendation – To contribute less than five percent of the anticipated growth between Existing and Future volumes on the Sage Canyon Road approach to Silverado Trail, the project would need to generate four or fewer outbound trips (one via Deer Park Road and three via Sage Canyon Road) during the weekday evening peak hour.

When added to the seven outbound trips permitted by the current Use Permit, this translates to 11 allowable outbound trips without triggering a *significant* impact; therefore, it is recommended that the project schedule shifts such that employees end their work day before 3:30 p.m. or after 6:00 p.m. on weekdays. This operational modification would reduce the project's impact to *less-than-significant* as the tasting room would average 20 visitors per weekday so even if all 20 visitors left the site during the p.m. peak hour, they would only result in eight outbound trips based on the County's standard occupancy rate of 2.6 persons per vehicle.

Existing plus Project plus Marketing Event Conditions

In evaluating conditions during marketing events, consideration was given to the planned timing of these events. As a result, traffic associated with a 30-person event was added to Existing plus Project volumes and evaluated during the weekend midday peak hour, and traffic associated with a 100-person event was added to Existing plus Project volumes and evaluated during both peak hours. It is further noted that traffic from the tasting room was not included in the 100-person event scenario as the tasting room would be closed to the general public during events of this size. Marketing Event levels of service are summarized in Table 12 and traffic volumes are shown in Figure 7.

Table 12 – Existing plus Project plus Marketing Event Peak Hour Intersection Levels of Service

Study Intersection *Approach*	**MD Peak + 30 Guests**		**PM Peak + 100 Guests**		**MD Peak + 100 Guests**	
	Delay	**LOS**	**Delay**	**LOS**	**Delay**	**LOS**
1. Silverado Trail/Deer Park Rd	15.4	C	21.1	C	15.4	C
2. Silverado Trail/Sage Canyon Rd	2.9	A	24.7	C	2.9	A
Southbound (Sage Canyon Rd) Approach	*16.8*	*C*	**	***F***	*17.1*	*C*

Notes: Delay is measured in average seconds per vehicle; LOS = Level of Service; Delay for side-street stop-controlled movements shown in *italics*; ** = delay greater than 120 seconds; **Bold** text = deficient operation

Finding – Both study intersections would be expected to operate acceptably during 30- and 100-person events during the weekend midday peak hour; however the Sage Canyon Road approach at Silverado Trail/Sage Canyon Road would be expected to continue operating at LOS F during the weekday p.m. peak hour upon the addition of traffic associated with a 100-person event to Existing volumes. The project would add 27 trips to the minor street approach at the conclusion of a 100-person event which would be approximately 19 percent of the 144 existing trips, and more than the allowed 10 percent indicating a *significant impact.*

Recommendation – Events with 90- or 100-persons should be scheduled to conclude before 3:30 p.m. or after 6:00 p.m. on weekdays, similar to 30-person events, in order to avoid adding trips to the Sage Canyon Road approach at Silverado Trail during the weekday evening peak hour, which is operating at LOS F under Existing Conditions. This would reduce the impact to *less-than-significant.*

Baseline plus Project plus Marketing Event Conditions

Baseline plus Project plus Marketing Event Conditions are summarized in Table 13. The same assumptions used in the Existing plus Project plus Marketing Event Conditions scenario were applied.

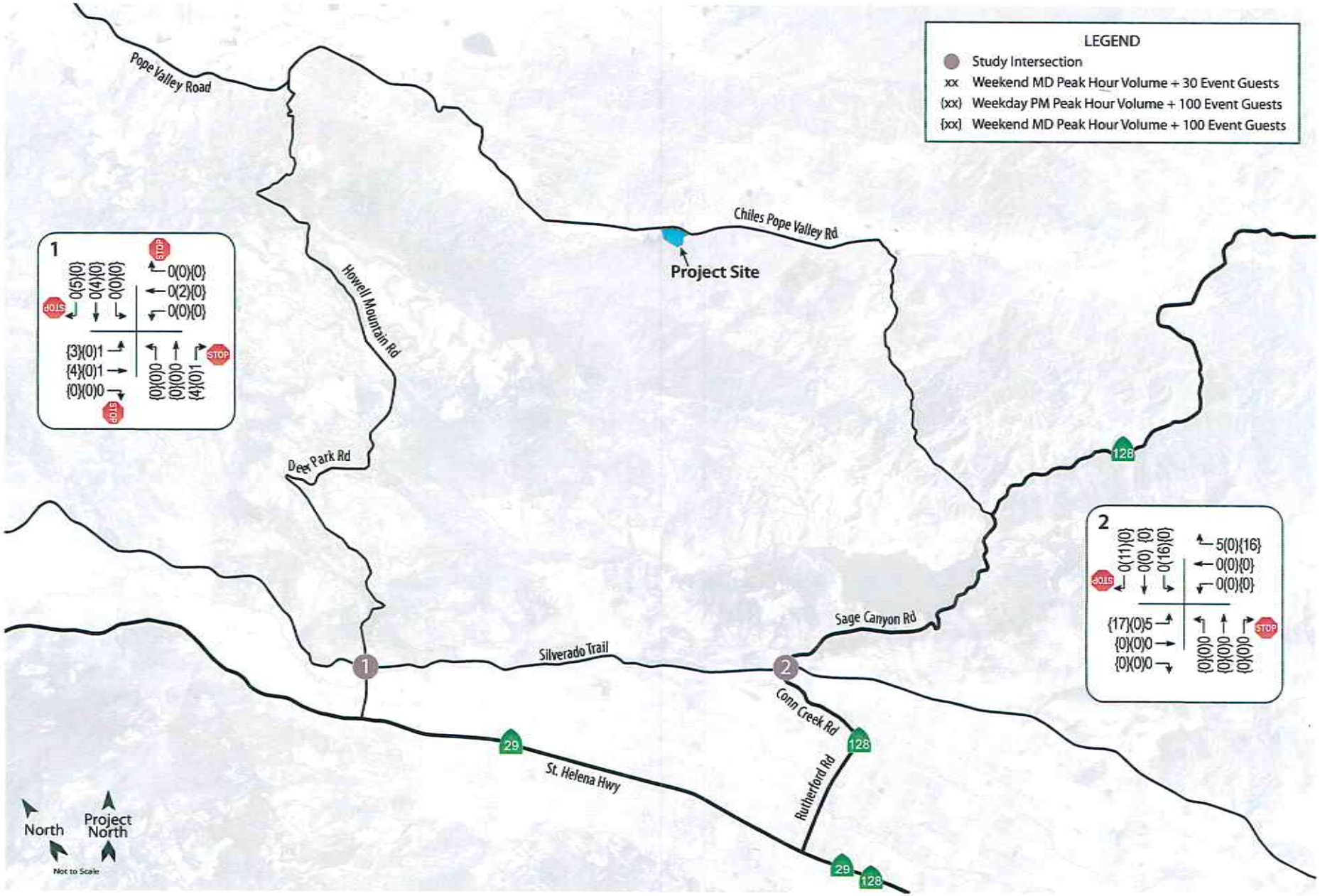

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Figure 7 – Marketing Event Traffic Volumes

Table 13 – Baseline plus Project plus Marketing Event Peak Hour Intersection Levels of Service						
Study Intersection ***Approach***	**MD Peak + 30 Guests**		**PM Peak + 100 Guests**		**MD Peak + 100 Guests**	
	Delay	**LOS**	**Delay**	**LOS**	**Delay**	**LOS**
1. Silverado Trail/Deer Park Rd	16.4	C	22.3	C	16.4	C
2. Silverado Trail/Sage Canyon Rd	3.3	A	28.4	D	3.2	A
Southbound (Sage Canyon Rd) Approach	*17.9*	*C*	**	***F***	*18.2*	*C*

Notes: Delay is measured in average seconds per vehicle; LOS = Level of Service; Delay for side-street stop-controlled movements shown in *italics*; ** = delay greater than 120 seconds; **Bold** text = deficient operation

Finding – Consistent with the Existing plus Project plus Marketing Event Conditions, no significant impacts were identified with 30-person events, but the project would be responsible for more than 10 percent of the volumes on the Sage Canyon Road approach at Silverado Trail at the conclusion of a 100-person event on a weekday. This would be considered a *significant impact* as the approach is operating unacceptably with high delay under Baseline Conditions.

Recommendation – Events with 90- or 100-persons should be scheduled to conclude by 3:30 p.m. or after 6:00 p.m. on weekdays to avoid generating trips during the p.m. peak hour in order to reduce their impact to *less-than-significant*.

Future plus Project plus Marketing Event Conditions

Upon the addition of event-related traffic to Future volumes, Silverado Trail/Deer Park Road would be expected to operate unacceptably during both peak hours and all proposed events and Silverado Trail/Sage Canyon Road would be expected to operate unacceptably during a 100-person event during the p.m. peak hour. Future plus Project plus Marketing Event Conditions are summarized in Table 14.

Table 14 – Future plus Project plus Marketing Event Peak Hour Intersection Levels of Service						
Study Intersection ***Approach***	**MD Peak + 30 Guests**		**PM Peak + 100 Guests**		**MD Peak + 100 Guests**	
	Delay	**LOS**	**Delay**	**LOS**	**Delay**	**LOS**
1. Silverado Trail/Deer Park Rd	**37.4**	**E**	**68.0**	**F**	**37.4**	**E**
2. Silverado Trail/Sage Canyon Rd	4.9	A	**	**F**	4.9	A
Southbound (Sage Canyon Rd) Approach	*31.1*	*D*	**	***F***	*32.0*	*D*

Notes: Delay is measured in average seconds per vehicle; LOS = Level of Service; Delay for side-street stop-controlled movements shown in *italics*; ** = delay greater than 120 seconds; **Bold** text = deficient operation

Finding – Although Silverado Trail/Deer Park Road would be expected to operate unacceptably during both peak hours and with 30- or 100-person events, the event traffic would account for less than five percent of the anticipated increase in volumes at by the horizon year of 2040 during each of these scenarios and the project's impact would therefore be considered *less-than-significant*. The five percent criterion would not be applicable to Silverado Trail/Sage Canyon Road during the weekend midday peak hour as the intersection, as a whole, and the stop-controlled minor street approach would be expected to operate acceptably; however, 100-person event traffic would be more than five percent of the expected increase in volumes on the Sage Canyon Road approach during the evening peak hour and this would be considered a cumulatively considerable impact.

Recommendation – As mentioned previously, events with 90- or 100-persons should be scheduled to conclude by 3:30 p.m. or after 6:00 p.m. on weekdays to avoid generating trips during the p.m. peak hour. This would reduce the impact to *less-than-significant*.

Alternative Modes

Pedestrian Facilities

Given its rural location, lack of existing facilities, and the nature of the project site, project patrons are not expected to walk to the site.

Finding – The lack of pedestrian facilities serving the project site on Chiles Pope Valley Road is consistent with the surrounding area and adequate for the type of land use.

Bicycle Facilities

Chiles Pope Valley Road is a Class III bike route and is therefore accessible via bicycle. The roadway is a featured route on the Napa Valley Bike Tours map and while group wine tours are not conducted on Chiles Pope Valley Road it is understood that cyclists do use the roadway for recreational purposes and to wine taste. Many cyclists like to travel in pairs so for this reason the site should provide at least two bicycle parking spaces near the tasting room.

Finding – The site is accessible via bicycle, but the site plan does not identify the provision of any bicycle parking.

Recommendation – The project should provide a minimum of two bicycle parking spaces on site.

Transit

The winery has been operating acceptably with the lack of transit facilities; the proposed expansion would not be expected to generate new transit demand.

Finding – The lack of transit facilities serving the project site is adequate for the demand.

Access and Circulation

Site Access

As proposed, the project would include a second driveway on Chiles Pope Valley Road that would be located approximately one-quarter mile north of the existing driveway. All traffic would continue to use the existing driveway until the second driveway is constructed, at which time the new driveway would be reserved for guests and the existing entrance would be used by employees and trucks. As shown in Figure 5, the new driveway would connect to a 20 foot-wide access road that would wind its way up the hill where it would connect to the existing drive aisle and provide access to an expanded surface parking lot adjacent to the tasting room.

Finding – On-site circulation is expected to continue operating acceptably.

Sight Distance

At private roads and driveways, a substantially clear line of sight should be maintained between the driver of a vehicle waiting at the crossroad and the driver of an approaching vehicle. Adequate time should be provided for the waiting vehicle to either cross, turn left, or turn right, without requiring the through traffic to radically alter their speed, if feasible.

Sight distances along Chiles Pope Valley Road at the existing and proposed driveways were evaluated based on sight distance criteria contained in the *Highway Design Manual* published by Caltrans. The recommended sight distances for minor street approaches that are driveways are based on stopping sight distance, with approach travel speeds used as the basis for determining the recommended sight distance. Sight distance should be measured from a 3.5-foot height at the location of the driver on the minor road to a 4.25-foot object height in the center of the approaching lane of the major road. Set-back for the driver on the crossroad shall be a minimum of 15 feet, measured from the edge of the traveled way.

Because the existing driveway is located near a horizontal curve with a posted advisory speed of 45 mph, sight distance at this driveway was evaluated with respect to the posted advisory speed. For speeds of 45 mph, the recommended stopping sight distance is 360 feet. Based on a review of field conditions, sight distance at the driveway extends approximately 500 feet to the south and 450 feet to the north to the nearest horizontal curves in each direction. These sight lines are sufficient for speeds exceeding 50 mph.

Sight distances at the proposed second driveway location were evaluated based on the *prima facie* speed limit of 55 mph, as the driveway would be located in the center of a relatively straight segment of Chiles Pope Valley Road approximately one-half mile in length that could facilitate higher speeds. For speeds of 55 mph, the recommended stopping sight distance is 500 feet. Based on a review of field conditions, sight distance extends more than 500 feet in both directions and the driveway would be expected to operate acceptably.

Finding – Adequate sight distance is available at both driveways to accommodate all turns. Although Chiles Pope Valley Road is generally curvy, both driveways are positioned on straight segments with adequate sight distance in both directions both for drivers exiting the site and also for following drivers to see and react to a vehicle stopped to turn into the project driveway, should that unlikely event occur.

Access Analysis

Left-Turn Lane Warrants

The County of Napa has a published policy that provides guidance on when a turn lane is needed based on the daily traffic volume projected to use the driveway as a function of roadway ADT (Average Daily Traffic). A left-turn lane meets warrants when the corresponding value plots above the curve indicated on the Left Turn Lane Warrant Graph from the *Napa County Road and Street Standards*, and is unwarranted if the value plots below the curve.

Although the project intends to separate visitor traffic from employees and trucks via the provision of two separate driveways, left-turn lane warrants were evaluated assuming that all traffic would continue to use the existing driveway to reflect near-term conditions until the second driveway is constructed. Based on Existing plus Project volumes, and assuming that all project traffic would use one driveway, a left-turn lane would still not be warranted with the proposed Use Permit Modification. A copy of the traffic counts that were collected for the analysis and the left-turn-lane warrant graph are included in Appendix D.

Finding – A left-turn lane would not be warranted on Chiles Pope Valley Road at the existing project driveway, even with increases in traffic associated with the modified Use Permit. Upon completion of the new driveway, project traffic would be distributed over two driveways and the need for a left-turn lane would be further reduced.

Emergency Access

The proposed project would be expected to improve access for emergency response vehicles via the provision of a secondary access point and an emergency vehicle turnaround.

Finding – Emergency access would continue to operate acceptably and would be improved by the project.

Conclusions and Recommendations

Conclusions

- The proposed project is expected to generate an average of 83 trips during a typical weekday, with 32 trips occurring during the evening peak hour and 41 trips during the weekend midday peak hour. Compared to the current Use Permit, this would result in a net increase of 53 trips per weekday including 21 trips during the weekday p.m. peak hour and 16 trips during the weekend midday peak hour.

- The study intersection of Silverado Trail/Deer Park Road is currently operating acceptably at LOS C or better during both peak hours; though Silverado Trail/Sage Canyon Road is operating acceptably overall and on the Sage Canyon approach during the weekend peak hour, it is operating at LOS F during the weekday p.m. peak hour. Upon the addition of project-related traffic, the study intersections would continue operating at the same levels of service and the project would be responsible for an increase that represents less than 10 percent of the existing p.m. peak hour traffic volumes on the Sage Canyon Road approach so the project's impact would be considered *less-than-significant* under the County's criterion.

- Upon the addition of traffic associated with approved or pending projects in the surrounding vicinity the study intersections would be expected to continue operating at the same service levels. The Sage Canyon Road approach to Silverado Trail would continue to operate unacceptably, but the project would add less than 10 percent of the Baseline volumes to the Sage Canyon Road approach so the project's impact would be considered *less-than-significant.*

- Under the anticipated Future volumes, Silverado Trail/Deer Park Road would deteriorate to LOS F during the weekday p.m. peak hour and LOS E during the weekend midday peak hour and Silverado Trail/Sage Canyon Road would deteriorate to LOS F overall during the weekday p.m. peak hour. Although these service levels are considered unacceptable, the project would contribute less than five percent of the anticipated increase in traffic volumes at Silverado Trail/Deer Park Road so the impact would be *less-than-significant* under the County's criterion. At Silverado Trail/Sage Canyon Road, however, the project would add more than the allowed five percent increase to the Sage Canyon Road approach which is considered a *significant* impact.

- As proposed, no significant impacts were identified with 30-person events; however 100-person events would contribute volumes that represent more than 10 percent of the Existing and Baseline volumes on the Sage Canyon Road approach to Silverado Trail during the weekday p.m. peak hour, which indicates a *significant* impact since the approach is currently operating at LOS F.

- Pedestrian, bicycle, and transit facilities are adequate to serve the anticipated demand, though the site plan does not identify the provision of bicycle parking.

- On-site circulation and emergency access would operate acceptably and sight distance on Chiles Pope Valley Road at the project driveways is adequate to accommodate all turns.

- A left-turn lane would not be warranted on Chiles Pope Valley Road at either project driveway.

Recommendations

- Events with 90- or 100-persons should be scheduled to conclude no later than 3:30 p.m. or after 6:00 p.m. on weekdays to avoid generating trips during the p.m. peak hour.

- To reduce the cumulative impact identified on the Sage Canyon Road approach to Silverado Trail to *less-than-significant*, the project should schedule work shifts such that no employees end their work day between 3:30 p.m. and 6:00 p.m. on weekdays.

- The project should provide at least two bicycle parking spaces near the tasting room.

Study Participants and References

Study Participants

Principal in Charge	Dalene J. Whitlock, PE, PTOE
Assistant Engineers	Cameron Nye, EIT
Graphics/Editing/Formatting	Angela McCoy

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Appendix A

Collision Rate Calculations

Intersection Collision Rate Calculations

Maxville Lake Winery TIS

Intersection # 1: Silverado Trail & Deer Park Rd
Date of Count: Thursday, October 26, 2017

Number of Collisions: 5
Number of Injuries: 0
Number of Fatalities: 0
ADT: 13600
Start Date: January 1, 2012
End Date: December 31, 2016
Number of Years: 5

Intersection Type: Four-Legged
Control Type: 4 Way Flasher
Area: Suburban

$$\text{collision rate} = \frac{\text{Number of Collisions x 1 Million}}{\text{ADT x 365 Days per Year x Number of Years}}$$

$$\text{collision rate} = \frac{5 \times 1{,}000{,}000}{13{,}600 \times 365 \times 5}$$

	Collision Rate	Fatality Rate	Injury Rate
Study Intersection	0.20 c/mve	0.0%	0.0%
Statewide Average*	0.41 c/mve	1.3%	32.9%

ADT = average daily total vehicles entering intersection
c/mve = collisions per million vehicles entering intersection
* 2013 Collision Data on California State Highways, Caltrans

Intersection # 2: Silverado Trail & Sage Canyon Rd
Date of Count: Thursday, October 26, 2017

Number of Collisions: 12
Number of Injuries: 3
Number of Fatalities: 0
ADT: 14600
Start Date: January 1, 2012
End Date: December 31, 2016
Number of Years: 5

Intersection Type: Four-Legged
Control Type: Stop & Yield Controls
Area: Rural

$$\text{collision rate} = \frac{\text{Number of Collisions x 1 Million}}{\text{ADT x 365 Days per Year x Number of Years}}$$

$$\text{collision rate} = \frac{12 \times 1{,}000{,}000}{14{,}600 \times 365 \times 5}$$

	Collision Rate	Fatality Rate	Injury Rate
Study Intersection	0.45 c/mve	0.0%	25.0%
Statewide Average*	0.23 c/mve	2.0%	40.4%

ADT = average daily total vehicles entering intersection
c/mve = collisions per million vehicles entering intersection
* 2013 Collision Data on California State Highways, Caltrans

Intersection Level Of Service Report
Intersection 1: Silverado Trail/Deer Park Rd

Control Type:	All-way stop	Delay (sec / veh):	20.8
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.770

Intersection Setup

Name	Deer Park Rd			Deer Park Rd			Silverado Trail			Silverado Trail		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	1	0	0	1	0	0	1	0	0	1
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	50.00	100.00	100.00	100.00
Speed [mph]	50.00			45.00			55.00			55.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	Deer Park Rd			Deer Park Rd			Silverado Trail			Silverado Trail		
Base Volume Input [veh/h]	25	162	131	240	103	27	11	232	9	72	191	155
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	25	162	131	240	103	27	11	232	9	72	191	155
Peak Hour Factor	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	6	42	34	62	27	7	3	60	2	19	49	40
Total Analysis Volume [veh/h]	26	167	135	247	106	28	11	239	9	74	197	160
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	456	508	459	530	460	507	463	520
Degree of Utilization, x	0.42	0.27	0.77	0.05	0.54	0.02	0.58	0.31

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	2.06	1.06	6.65	0.17	3.18	0.05	3.65	1.29
95th-Percentile Queue Length [ft]	51.48	26.52	166.61	4.17	79.59	1.35	91.59	32.34
Approach Delay [s/veh]	14.59		30.60		19.12		17.79	
Approach LOS	B		D		C		C	
Intersection Delay [s/veh]	20.77							
Intersection LOS	C							

Intersection Level Of Service Report
Intersection 2: Silverado Trail/Sage Canyon Rd

Control Type:	Two-way stop	Delay (sec / veh):	152.5
Analysis Method:	HCM 2010	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.962

Intersection Setup

Name	Driveway			Sage Canyon Rd			Silverado Trail			Silverado Trail		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration		┼			┼			┐├			┐├	
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	1	0	0	1	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	170.00	100.00	100.00	110.00	100.00	100.00
Speed [mph]	15.00			40.00			55.00			55.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	Driveway			Sage Canyon Rd			Silverado Trail			Silverado Trail		
Base Volume Input [veh/h]	2	0	2	84	0	60	127	843	1	1	305	35
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	2	0	2	84	0	60	127	843	1	1	305	35
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	0	1	22	0	16	33	222	0	0	80	9
Total Analysis Volume [veh/h]	2	0	2	88	0	63	134	887	1	1	321	37
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane	No	Yes		
Storage Area [veh]	0	2	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.03	0.00	0.01	0.95	0.00	0.09	0.11	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	51.02	39.87	16.39	152.55	146.33	118.32	8.37	0.00	0.00	9.73	0.00	0.00
Movement LOS	F	E	C	F	F	F	A	A	A	A	A	A
95th-Percentile Queue Length [veh]	0.10	0.10	0.10	7.66	7.66	7.66	0.38	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft]	2.38	2.38	2.38	191.39	191.39	191.39	9.40	0.00	0.00	0.10	0.00	0.00
d_A, Approach Delay [s/veh]	33.70			138.27			1.10			0.03		
Approach LOS	D			F			A			A		
d_I, Intersection Delay [s/veh]	14.42											
Intersection LOS	F											

Intersection Level Of Service Report
Intersection 1: Silverado Trail/Deer Park Rd

Control Type:	All-way stop	Delay (sec / veh):	15.2
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.660

Intersection Setup

Name	Deer Park Rd			Deer Park Rd			Silverado Trail			Silverado Trail		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	1	0	0	1	0	0	1	0	0	1
Pocket Length [ft]	100.00		100.00	100.00		100.00	50.00		50.00	100.00		100.00
Speed [mph]	50.00			45.00			55.00			55.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	Deer Park Rd			Deer Park Rd			Silverado Trail			Silverado Trail		
Base Volume Input [veh/h]	16	137	52	195	147	45	32	131	11	64	137	89
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	16	137	52	195	147	45	32	131	11	64	137	89
Peak Hour Factor	0.9600	0.9600	0.9600	0.9600	0.9600	0.9600	0.9600	0.9600	0.9600	0.9600	0.9600	0.9600
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	4	36	14	51	38	12	8	34	3	17	36	23
Total Analysis Volume [veh/h]	17	143	54	203	153	47	33	135	11	67	143	93
Pedestrian Volume [ped/h]		0			0			0			0	

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	528	595	539	633	513	579	520	594
Degree of Utilization, x	0.30	0.09	0.66	0.07	0.33	0.02	0.40	0.16

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	1.27	0.30	4.82	0.24	1.43	0.06	1.94	0.55
95th-Percentile Queue Length [ft]	31.72	7.46	120.47	6.00	35.68	1.45	48.45	13.80
Approach Delay [s/veh]	11.67		19.95		12.88		12.91	
Approach LOS	B		C		B		B	
Intersection Delay [s/veh]	15.24							
Intersection LOS	C							

Intersection Level Of Service Report
Intersection 2: Silverado Trail/Sage Canyon Rd

Control Type:	Two-way stop	Delay (sec / veh):	19.6
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.226

Intersection Setup

Name	Driveway			Sage Canyon Rd			Silverado Trail			Silverado Trail		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	1	0	0	1	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	170.00	100.00	100.00	110.00	100.00	100.00
Speed [mph]	15.00			40.00			55.00			55.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	Driveway			Sage Canyon Rd			Silverado Trail			Silverado Trail		
Base Volume Input [veh/h]	1	0	4	58	0	53	46	307	4	2	300	60
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	1	0	4	58	0	53	46	307	4	2	300	60
Peak Hour Factor	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	1	16	0	15	13	85	1	1	83	17
Total Analysis Volume [veh/h]	1	0	4	64	0	59	51	341	4	2	333	67
Pedestrian Volume [ped/h]		0			0			0			0	

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Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane	No	Yes		
Storage Area [veh]	0	2	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.01	0.23	0.00	0.09	0.04	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	19.52	17.73	10.21	19.64	19.06	12.23	8.25	0.00	0.00	7.97	0.00	0.00
Movement LOS	C	C	B	C	C	B	A	A	A	A	A	A
95th-Percentile Queue Length [veh]	0.03	0.03	0.03	0.86	0.86	0.86	0.14	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft]	0.74	0.74	0.74	21.56	21.56	21.56	3.45	0.00	0.00	0.12	0.00	0.00
d_A, Approach Delay [s/veh]	12.08			18.08			1.06			0.04		
Approach LOS	B			C			A			A		
d_I, Intersection Delay [s/veh]	2.67											
Intersection LOS	C											

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Intersection Level Of Service Report
Intersection 1: Silverado Trail/Deer Park Rd

Control Type:	All-way stop	Delay (sec / veh):	21.9
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.799

Intersection Setup

Name	Deer Park Rd			Deer Park Rd			Silverado Trail			Silverado Trail		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	1	0	0	1	0	0	1	0	0	1
Pocket Length [ft]	100.00		100.00	100.00		100.00	100.00		50.00	100.00		100.00
Speed [mph]	50.00			45.00			55.00			55.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	Deer Park Rd			Deer Park Rd			Silverado Trail			Silverado Trail		
Base Volume Input [veh/h]	25	164	131	245	108	34	15	232	9	72	191	157
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	25	164	131	245	108	34	15	232	9	72	191	157
Peak Hour Factor	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	6	42	34	63	28	9	4	60	2	19	49	40
Total Analysis Volume [veh/h]	26	169	135	253	111	35	15	239	9	74	197	162
Pedestrian Volume [ped/h]	0			0			0			0		

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Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	453	502	455	526	455	502	458	514
Degree of Utilization, x	0.43	0.27	0.80	0.07	0.56	0.02	0.59	0.32

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	2.13	1.08	7.29	0.21	3.34	0.05	3.75	1.34
95th-Percentile Queue Length [ft]	53.31	26.98	182.26	5.33	83.62	1.37	93.76	33.55
Approach Delay [s/veh]	14.90		33.09		19.80		18.19	
Approach LOS	B		D		C		C	
Intersection Delay [s/veh]	21.90							
Intersection LOS	C							

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Intersection Level Of Service Report
Intersection 2: Silverado Trail/Sage Canyon Rd

Control Type:	Two-way stop	Delay (sec / veh):	177.4
Analysis Method:	HCM 2010	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.030

Intersection Setup

Name	Driveway			Sage Canyon Rd			Silverado Trail			Silverado Trail		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	1	0	0	1	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	170.00	100.00	100.00	110.00	100.00	100.00
Speed [mph]	15.00			40.00			55.00			55.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	Driveway			Sage Canyon Rd			Silverado Trail			Silverado Trail		
Base Volume Input [veh/h]	2	0	2	88	0	64	128	845	1	1	307	38
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	2	0	2	88	0	64	128	845	1	1	307	38
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	0	1	23	0	17	34	222	0	0	81	10
Total Analysis Volume [veh/h]	2	0	2	93	0	67	135	889	1	1	323	40
Pedestrian Volume [ped/h]	0			0			0			0		

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Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane	No	Yes		
Storage Area [veh]	0	2	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.03	0.00	0.01	1.03	0.00	0.10	0.11	0.07	0.00	0.00	0.02	0.00
d_M, Delay for Movement [s/veh]	52.11	40.39	16.45	177.43	171.09	142.70	8.39	0.14	0.00	9.73	0.12	0.00
Movement LOS	F	E	C	F	F	F	A	A	A	A	A	A
95th-Percentile Queue Length [veh]	0.10	0.10	0.10	8.64	8.64	8.64	0.38	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft]	2.42	2.42	2.42	215.88	215.88	215.88	9.52	0.00	0.00	0.10	0.00	0.00
d_A, Approach Delay [s/veh]	34.28			162.88			1.11			0.03		
Approach LOS	D			F			A			A		
d_I, Intersection Delay [s/veh]	17.61											
Intersection LOS	F											

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Intersection Level Of Service Report
Intersection 1: Silverado Trail/Deer Park Rd

Control Type:	All-way stop	Delay (sec / veh):	16.1
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.694

Intersection Setup

Name	Deer Park Rd			Deer Park Rd			Silverado Trail			Silverado Trail		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	1	0	0	1	0	0	1	0	0	1
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	50.00	100.00	100.00	100.00
Speed [mph]	50.00			45.00			55.00			55.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	Deer Park Rd			Deer Park Rd			Silverado Trail			Silverado Trail		
Base Volume Input [veh/h]	16	143	52	202	153	54	41	131	11	64	137	96
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	16	143	52	202	153	54	41	131	11	64	137	96
Peak Hour Factor	0.9600	0.9600	0.9600	0.9600	0.9600	0.9600	0.9600	0.9600	0.9600	0.9600	0.9600	0.9600
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	4	37	14	53	40	14	11	34	3	17	36	25
Total Analysis Volume [veh/h]	17	149	54	210	159	56	43	135	11	67	143	100
Pedestrian Volume [ped/h]	0			0			0			0		

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Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	519	582	532	623	503	568	510	582
Degree of Utilization, x	0.32	0.09	0.69	0.09	0.36	0.02	0.41	0.17

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	1.37	0.31	5.38	0.30	1.59	0.06	1.99	0.62
95th-Percentile Queue Length [ft]	34.26	7.63	134.54	7.38	39.67	1.48	49.85	15.42
Approach Delay [s/veh]	12.05		21.53		13.49		13.18	
Approach LOS	B		C		B		B	
Intersection Delay [s/veh]	16.11							
Intersection LOS	C							

Intersection Level Of Service Report
Intersection 2: Silverado Trail/Sage Canyon Rd

Control Type:	Two-way stop	Delay (sec / veh):	20.8
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.268

Intersection Setup

Name	Driveway			Sage Canyon Rd			Silverado Trail			Silverado Trail		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration		┼			┼			┐├			┐├	
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	1	0	0	1	0	0
Pocket Length [ft]	150.00	150.00	150.00	150.00	150.00	150.00	170.00	150.00	150.00	110.00	150.00	150.00
Speed [mph]	15.00			40.00			55.00			55.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	Driveway			Sage Canyon Rd			Silverado Trail			Silverado Trail		
Base Volume Input [veh/h]	1	0	4	66	0	59	51	310	4	2	303	67
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	1	0	4	66	0	59	51	310	4	2	303	67
Peak Hour Factor	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	1	18	0	16	14	86	1	1	84	19
Total Analysis Volume [veh/h]	1	0	4	73	0	66	57	344	4	2	337	74
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane	No	Yes		
Storage Area [veh]	0	2	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

WC, Movement V/C Ratio	0.00	0.00	0.01	0.27	0.00	0.10	0.05	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	20.38	18.26	10.24	20.76	20.11	12.88	8.30	7.30	7.70	7.98	7.30	7.70
Movement LOS	C	C	B	C	C	B	A	A	A	A	A	A
95th-Percentile Queue Length [veh]	0.03	0.03	0.03	1.08	1.08	1.08	0.16	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft]	0.76	0.76	0.76	26.88	26.88	26.88	3.91	0.00	0.00	0.12	0.00	0.00
d_A, Approach Delay [s/veh]	12.27			17.02			1.17			0.04		
Approach LOS	B			C			A			A		
d_I, Intersection Delay [s/veh]	3.03											
Intersection LOS	C											

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Intersection Level Of Service Report
Intersection 1: Silverado Trail/Deer Park Rd

Control Type:	All-way stop	Delay (sec / veh):	66.7
Analysis Method:	HCM 2010	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.246

Intersection Setup

Name	Deer Park Rd			Deer Park Rd			Silverado Trail			Silverado Trail		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	1	0	0	1	0	0	1	0	0	1
Pocket Length [ft]	100.00		100.00	100.00		100.00	100.00		50.00	100.00		100.00
Speed [mph]	50.00			45.00			55.00			55.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	Deer Park Rd			Deer Park Rd			Silverado Trail			Silverado Trail		
Base Volume Input [veh/h]	25	162	131	240	103	27	11	232	9	72	191	155
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.40	1.40	1.40	1.40	1.40	1.40	1.40	1.40	1.40	1.40	1.40	1.40
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	35	227	183	336	144	38	15	325	13	101	267	217
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	9	57	46	84	36	10	4	81	3	25	67	54
Total Analysis Volume [veh/h]	35	227	183	336	144	38	15	325	13	101	267	217
Pedestrian Volume [ped/h]		0			0			0			0	

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Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	391	427	480	436	404	437	404	444
Degree of Utilization, x	0.67	0.43	1.25	0.09	0.84	0.03	0.91	0.49

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	4.70	2.11	20.59	0.29	8.00	0.09	9.72	2.62
95th-Percentile Queue Length [ft]	117.44	52.65	514.68	7.13	199.90	2.29	243.04	65.53
Approach Delay [s/veh]	23.95		147.73		43.05		41.60	
Approach LOS	C		F		E		E	
Intersection Delay [s/veh]	66.68							
Intersection LOS	F							

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Intersection Level Of Service Report
Intersection 2: Silverado Trail/Sage Canyon Rd

Control Type:	Two-way stop	Delay (sec / veh):	1,722.0
Analysis Method:	HCM 2010	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	4.202

Intersection Setup

Name	Driveway			Sage Canyon Rd			Silverado Trail			Silverado Trail		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	1	0	0	1	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	170.00	100.00	100.00	110.00	100.00	100.00
Speed [mph]	15.00			40.00			55.00			55.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	Driveway			Sage Canyon Rd			Silverado Trail			Silverado Trail		
Base Volume Input [veh/h]	2	0	2	84	0	60	127	843	1	1	305	35
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	3	0	3	126	0	90	191	1265	2	2	458	53
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	0	1	32	0	23	48	316	1	1	115	13
Total Analysis Volume [veh/h]	3	0	3	126	0	90	191	1265	2	2	458	53
Pedestrian Volume [ped/h]												

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Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane	No	Yes		
Storage Area [veh]	0	2	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.13	0.00	0.01	4.20	0.00	0.15	0.18	0.01	0.04	0.00	0.01	0.00
d_M, Delay for Movement [s/veh]	168.53	111.96	35.64	1721.96	1692.26	1608.09	9.17	9.02	9.05	11.59	9.04	9.00
Movement LOS	F	F	E	F	F	F	A	A	A	B	A	A
95th-Percentile Queue Length [veh]	0.44	0.44	0.44	24.15	24.15	24.15	0.66	0.00	0.00	0.01	0.00	0.00
95th-Percentile Queue Length [ft]	11.12	11.12	11.12	603.72	603.72	603.72	16.49	0.00	0.00	0.27	0.00	0.00
d_A, Approach Delay [s/veh]	102.06			1674.51			1.20			0.05		
Approach LOS	F			F			A			A		
d_I, Intersection Delay [s/veh]	165.02											
Intersection LOS	F											

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Intersection Level Of Service Report
Intersection 1: Silverado Trail/Deer Park Rd

Control Type:	All-way stop	Delay (sec / veh):	37.1
Analysis Method:	HCM 2010	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.029

Intersection Setup

Name	Deer Park Rd			Deer Park Rd			Silverado Trail			Silverado Trail		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	1	0	0	1	0	0	1	0	0	1
Pocket Length [ft]	100.00		100.00	100.00		100.00	100.00		50.00	100.00		100.00
Speed [mph]	50.00			45.00			55.00			55.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	Deer Park Rd			Deer Park Rd			Silverado Trail			Silverado Trail		
Base Volume Input [veh/h]	16	137	52	195	147	45	32	131	11	64	137	89
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.40	1.40	1.40	1.40	1.40	1.40	1.40	1.40	1.40	1.40	1.40	1.40
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	22	192	73	273	206	63	45	183	15	90	192	125
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	6	48	18	68	52	16	11	46	4	23	48	31
Total Analysis Volume [veh/h]	22	192	73	273	206	63	45	183	15	90	192	125
Pedestrian Volume [ped/h]		0			0			0			0	

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Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	449	495	479	534	440	486	451	504
Degree of Utilization, x	0.48	0.15	1.03	0.12	0.52	0.03	0.63	0.25

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	2.52	0.51	14.28	0.40	2.90	0.10	4.18	0.97
95th-Percentile Queue Length [ft]	62.91	12.86	356.97	9.96	72.52	2.38	104.51	24.27
Approach Delay [s/veh]	16.13		89.45		15.75		19.76	
Approach LOS	C		F		C		C	
Intersection Delay [s/veh]	37.10							
Intersection LOS	E							

Intersection Level Of Service Report
Intersection 2: Silverado Trail/Sage Canyon Rd

Control Type:	Two-way stop	Delay (sec / veh):	35.4
Analysis Method:	HCM 2010	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.494

Intersection Setup

Name	Driveway			Sage Canyon Rd			Silverado Trail			Silverado Trail		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	1	0	0	1	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	170.00	100.00	100.00	110.00	100.00	100.00
Speed [mph]	15.00			40.00			55.00			55.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	Driveway			Sage Canyon Rd			Silverado Trail			Silverado Trail		
Base Volume Input [veh/h]	1	0	4	58	0	53	45	307	4	2	300	60
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	2	0	6	87	0	80	69	461	6	3	450	90
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	0	2	22	0	20	17	115	2	1	113	23
Total Analysis Volume [veh/h]	2	0	6	87	0	80	69	461	6	3	450	90
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane	No	Yes		
Storage Area [veh]	0	2	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

v/c, Movement V/C Ratio	0.01	0.00	0.01	0.49	0.00	0.14	0.07	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	30.19	24.73	11.28	35.42	33.36	21.24	8.75	0.00	0.00	8.30	0.00	0.00
Movement LOS	D	C	B	E	D	C	A	A	A	A	A	A
95th-Percentile Queue Length [veh]	0.07	0.07	0.07	2.61	2.61	2.61	0.22	0.00	0.00	0.01	0.00	0.00
95th-Percentile Queue Length [ft]	1.83	1.83	1.83	65.29	65.29	65.29	5.38	0.00	0.00	0.21	0.00	0.00
d_A, Approach Delay [s/veh]	16.01			28.63			1.13			0.05		
Approach LOS	C			D			A			A		
d_I, Intersection Delay [s/veh]	4.42											
Intersection LOS	E											

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Intersection Level Of Service Report
Intersection 1: Silverado Trail/Deer Park Rd

Control Type:	All-way stop	Delay (sec / veh):	20.9
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.771

Intersection Setup

Name	Deer Park Rd			Deer Park Rd			Silverado Trail			Silverado Trail		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	1	0	0	1	0	0	1	0	0	1
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	50.00	100.00	100.00	100.00
Speed [mph]	50.00			45.00			55.00			55.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	Deer Park Rd			Deer Park Rd			Silverado Trail			Silverado Trail		
Base Volume Input [veh/h]	25	162	131	240	103	27	11	232	9	72	191	155
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	1	0	0	2	1	0	0	1	1	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	25	162	132	240	103	29	12	232	9	73	192	155
Peak Hour Factor	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	6	42	34	62	27	7	3	60	2	19	49	40
Total Analysis Volume [veh/h]	26	167	135	247	106	30	12	239	9	75	198	160
Pedestrian Volume [ped/h]		0			0			0			0	

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Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	457	507	458	529	459	507	462	520
Degree of Utilization, x	0.42	0.27	0.77	0.05	0.55	0.02	0.59	0.31

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	2.07	1.07	6.70	0.18	3.22	0.05	3.73	1.30
95th-Percentile Queue Length [ft]	51.66	26.67	167.40	4.50	80.41	1.35	93.23	32.42
Approach Delay [s/veh]	14.64		30.69		19.24		17.98	
Approach LOS	B		D		C		C	
Intersection Delay [s/veh]	20.89							
Intersection LOS	C							

Intersection Level Of Service Report
Intersection 2: Silverado Trail/Sage Canyon Rd

Control Type:	Two-way stop	Delay (sec / veh):	185.4
Analysis Method:	HCM 2010	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.054

Intersection Setup

Name	Driveway			Sage Canyon Rd			Silverado Trail			Silverado Trail		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	1	0	0	1	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	170.00	100.00	100.00	110.00	100.00	100.00
Speed [mph]	15.00			40.00			55.00			55.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	Driveway			Sage Canyon Rd			Silverado Trail			Silverado Trail		
Base Volume Input [veh/h]	2	0	2	84	0	60	127	843	1	1	305	35
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	6	0	6	3	0	0	0	0	3
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	2	0	2	90	0	66	130	843	1	1	305	38
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	0	1	24	0	17	34	222	0	0	80	10
Total Analysis Volume [veh/h]	2	0	2	95	0	69	137	887	1	1	321	40
Pedestrian Volume [ped/h]		0			0			0			0	

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane	No	Yes		
Storage Area [veh]	0	2	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.03	0.00	0.01	1.05	0.00	0.10	0.11	0.01	0.00	0.00	0.01	0.00
d_M, Delay for Movement [s/veh]	52.39	40.48	16.43	185.43	179.10	150.64	8.39	9.08	9.00	9.73	9.72	9.59
Movement LOS	F	E	C	F	F	F	A	A	A	A	A	A
95th-Percentile Queue Length [veh]	0.10	0.10	0.10	8.99	8.99	8.99	0.39	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft]	2.44	2.44	2.44	224.78	224.78	224.78	9.66	0.00	0.00	0.10	0.00	0.00
d_A, Approach Delay [s/veh]	34.41			170.79			1.12			0.03		
Approach LOS	D			F			A			A		
d_I, Intersection Delay [s/veh]	18.85											
Intersection LOS	F											

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Intersection Level Of Service Report
Intersection 1: Silverado Trail/Deer Park Rd

Control Type:	All-way stop	Delay (sec / veh):	15.4
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.654

Intersection Setup

Name	Deer Park Rd			Deer Park Rd			Silverado Trail			Silverado Trail		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	1	0	0	1	0	0	1	0	0	1
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	50.00	100.00	100.00	100.00
Speed [mph]	50.00			45.00			55.00			55.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	Deer Park Rd			Deer Park Rd			Silverado Trail			Silverado Trail		
Base Volume Input [veh/h]	16	137	52	195	147	45	32	131	11	64	137	89
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	1	0	1	1	1	1	0	0	1	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	16	137	53	195	148	46	33	132	11	64	138	89
Peak Hour Factor	0.9600	0.9600	0.9600	0.9600	0.9600	0.9600	0.9600	0.9600	0.9600	0.9600	0.9600	0.9600
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	4	36	14	51	39	12	9	34	3	17	36	23
Total Analysis Volume [veh/h]	17	143	55	203	154	48	34	138	11	67	144	93
Pedestrian Volume [ped/h]	0			0			0			0		

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Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	526	592	537	631	512	578	518	592
Degree of Utilization, x	0.30	0.09	0.66	0.08	0.34	0.02	0.41	0.16

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	1.27	0.31	4.88	0.25	1.47	0.06	1.96	0.55
95th-Percentile Queue Length [ft]	31.67	7.64	121.92	6.16	36.71	1.46	49.01	13.85
Approach Delay [s/veh]	11.71		20.13		13.00		12.98	
Approach LOS	B		C		B		B	
Intersection Delay [s/veh]	15.35							
Intersection LOS	C							

Intersection Level Of Service Report
Intersection 2: Silverado Trail/Sage Canyon Rd

Control Type:	Two-way stop	Delay (sec / veh):	20.2
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.245

Intersection Setup

Name	Driveway			Sage Canyon Rd			Silverado Trail			Silverado Trail		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	1	0	0	1	0	0
Pocket Length [ft]	50.00	100.00	100.00	100.00	100.00	100.00	170.00	100.00	100.00	110.00	100.00	100.00
Speed [mph]	15.00			40.00			55.00			55.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	Driveway			Sage Canyon Rd			Silverado Trail			Silverado Trail		
Base Volume Input [veh/h]	1	0	4	58	0	53	46	307	4	2	300	60
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	3	0	3	4	0	0	0	0	3
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	1	0	4	61	0	56	50	307	4	2	300	63
Peak Hour Factor	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	1	17	0	16	14	85	1	1	83	18
Total Analysis Volume [veh/h]	1	0	4	68	0	62	56	341	4	2	333	70
Pedestrian Volume [ped/h]		0			0			0			0	

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane	No	Yes		
Storage Area [veh]	0	2	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.01	0.25	0.00	0.09	0.05	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	19.95	18.01	10.22	20.19	19.58	12.51	8.27	8.00	8.00	7.97	8.00	8.00
Movement LOS	C	C	B	C	C	B	A	A	A	A	A	A
95th-Percentile Queue Length [veh]	0.03	0.03	0.03	0.96	0.96	0.96	0.15	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft]	0.75	0.75	0.75	23.93	23.93	23.93	3.82	0.00	0.00	0.12	0.00	0.00
d_A, Approach Delay [s/veh]	12.16			16.53			1.16			0.04		
Approach LOS	B			C			A			A		
d_I, Intersection Delay [s/veh]	2.66											
Intersection LOS	C											

Intersection Level Of Service Report
Intersection 1: Silverado Trail/Deer Park Rd

Control Type:	All-way stop	Delay (sec / veh):	22.0
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.801

Intersection Setup

Name	Deer Park Rd			Deer Park Rd			Silverado Trail			Silverado Trail		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	1	0	0	1	0	0	1	0	0	1
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	50.00	100.00	100.00	100.00
Speed [mph]	50.00			45.00			55.00			55.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	Deer Park Rd			Deer Park Rd			Silverado Trail			Silverado Trail		
Base Volume Input [veh/h]	25	164	131	245	108	34	15	232	9	72	191	157
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	1	0	0	2	1	0	0	1	1	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	25	164	132	245	108	36	16	232	9	73	192	157
Peak Hour Factor	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	6	42	34	63	28	9	4	60	2	19	49	40
Total Analysis Volume [veh/h]	26	169	136	253	111	37	16	239	9	75	198	162
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	451	501	455	524	455	501	457	513
Degree of Utilization, x	0.43	0.27	0.80	0.07	0.56	0.02	0.60	0.32

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	2.14	1.09	7.33	0.23	3.38	0.05	3.82	1.35
95th-Percentile Queue Length [ft]	53.50	27.34	183.14	5.67	84.50	1.37	95.46	33.64
Approach Delay [s/veh]	14.95		33.20		19.94		18.37	
Approach LOS	B		D		C		C	
Intersection Delay [s/veh]	22.03							
Intersection LOS	C							

Intersection Level Of Service Report
Intersection 2: Silverado Trail/Sage Canyon Rd

Control Type:	Two-way stop	Delay (sec / veh):	209.6
Analysis Method:	HCM 2010	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.113

Intersection Setup

Name	Driveway			Sage Canyon Rd			Silverado Trail			Silverado Trail		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	1	0	0	1	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	170.00	100.00	100.00	110.00	100.00	100.00
Speed [mph]	15.00			40.00			55.00			55.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	Driveway			Sage Canyon Rd			Silverado Trail			Silverado Trail		
Base Volume Input [veh/h]	2	0	2	88	0	64	128	845	1	1	307	38
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	6	0	6	3	0	0	0	0	3
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	2	0	2	94	0	70	131	845	1	1	307	41
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	0	1	25	0	18	34	222	0	0	81	11
Total Analysis Volume [veh/h]	2	0	2	99	0	74	138	889	1	1	323	43
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane	No	Yes		
Storage Area [veh]	0	2	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.03	0.00	0.01	1.11	0.00	0.11	0.12	0.01	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	53.64	40.99	16.50	209.56	203.11	174.26	8.41	9.00	9.00	9.73	9.38	9.00
Movement LOS	F	E	C	F	F	F	A	A	A	A	A	A
95th-Percentile Queue Length [veh]	0.10	0.10	0.10	9.93	9.93	9.93	0.39	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft]	2.49	2.49	2.49	248.23	248.23	248.23	9.79	0.00	0.00	0.10	0.00	0.00
d_A, Approach Delay [s/veh]	35.07			194.46			1.13			0.03		
Approach LOS	E			F			A			A		
d_I, Intersection Delay [s/veh]	22.23											
Intersection LOS	F											

Intersection Level Of Service Report
Intersection 1: Silverado Trail/Deer Park Rd

Control Type:	All-way stop	Delay (sec / veh):	16.4
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.701

Intersection Setup

Name	Deer Park Rd			Deer Park Rd			Silverado Trail			Silverado Trail		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	1	0	0	1	0	0	1	0	0	1
Pocket Length [ft]	100.00		100.00	100.00		100.00	50.00		50.00	100.00		100.00
Speed [mph]	50.00			45.00			55.00			55.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	Deer Park Rd			Deer Park Rd			Silverado Trail			Silverado Trail		
Base Volume Input [veh/h]	16	143	52	202	153	54	41	131	11	64	137	96
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	1	0	1	1	1	1	0	0	1	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	16	143	53	202	154	55	42	132	11	64	138	96
Peak Hour Factor	0.9600	0.9600	0.9600	0.9600	0.9600	0.9600	0.9600	0.9600	0.9600	0.9600	0.9600	0.9600
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	4	37	14	53	40	14	11	34	3	17	36	25
Total Analysis Volume [veh/h]	17	149	55	210	160	57	44	138	11	67	144	100
Pedestrian Volume [ped/h]		0			0			0			0	

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	514	577	528	618	459	564	506	577
Degree of Utilization, x	0.32	0.10	0.70	0.09	0.36	0.02	0.42	0.17

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	1.39	0.31	5.50	0.30	1.65	0.06	2.03	0.62
95th-Percentile Queue Length [ft]	34.66	7.87	137.39	7.59	41.27	1.49	50.80	15.57
Approach Delay [s/veh]	12.16		21.96		13.71		13.33	
Approach LOS	B		C		B		B	
Intersection Delay [s/veh]	16.37							
Intersection LOS	C							

Intersection Level Of Service Report
Intersection 2: Silverado Trail/Sage Canyon Rd

Control Type:	Two-way stop	Delay (sec / veh):	21.3
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.288

Intersection Setup

Name	Driveway			Sage Canyon Rd			Silverado Trail			Silverado Trail		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration		+			+			┐+			┐+	
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	1	0	0	1	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	170.00	100.00	100.00	110.00	100.00	100.00
Speed [mph]	15.00			40.00			55.00			55.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	Driveway			Sage Canyon Rd			Silverado Trail			Silverado Trail		
Base Volume Input [veh/h]	1	0	4	66	0	59	51	310	4	2	303	67
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	3	0	3	4	0	0	0	0	3
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	1	0	4	69	0	62	55	310	4	2	303	70
Peak Hour Factor	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	1	19	0	17	15	86	1	1	84	19
Total Analysis Volume [veh/h]	1	0	4	77	0	69	61	344	4	2	337	78
Pedestrian Volume [ped/h]		0			0			0			0	

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Version 5.00-00

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane	No	Yes		
Storage Area [veh]	0	2	2	2
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

v/c, Movement v/c Ratio	0.00	0.00	0.01	0.29	0.00	0.10	0.05	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	20.78	18.53	10.24	21.33	20.65	13.22	8.32	0.00	0.00	7.98	0.00	0.00
Movement LOS	C	C	B	C	C	B	A	A	A	A	A	A
95th-Percentile Queue Length [veh]	0.03	0.03	0.03	1.18	1.18	1.18	0.17	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft]	0.77	0.77	0.77	29.59	29.59	29.59	4.22	0.00	0.00	0.12	0.00	0.00
d_A, Approach Delay [s/veh]	12.35			17.50			1.24			0.04		
Approach LOS	B			C			A			A		
d_I, Intersection Delay [s/veh]	3.21											
Intersection LOS	C											

Intersection Level Of Service Report
Intersection 1: Silverado Trail/Deer Park Rd

Control Type:	All-way stop	Delay (sec / veh):	67.2
Analysis Method:	HCM 2010	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.248

Intersection Setup

Name	Deer Park Rd			Deer Park Rd			Silverado Trail			Silverado Trail		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	1	0	0	1	0	0	1	0	0	1
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	50.00	100.00	100.00	100.00
Speed [mph]	50.00			45.00			55.00			55.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	Deer Park Rd			Deer Park Rd			Silverado Trail			Silverado Trail		
Base Volume Input [veh/h]	25	162	131	240	103	27	11	232	9	72	191	155
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.40	1.40	1.40	1.40	1.40	1.40	1.40	1.40	1.40	1.40	1.40	1.40
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	1	0	0	2	1	0	0	1	1	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	35	227	184	336	144	40	16	325	13	102	268	217
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	9	57	46	84	36	10	4	81	3	26	67	54
Total Analysis Volume [veh/h]	35	227	184	336	144	40	16	325	13	102	268	217
Pedestrian Volume [ped/h]		0			0			0			0	

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	391	426	480	435	403	437	404	444
Degree of Utilization, x	0.67	0.43	1.25	0.09	0.85	0.03	0.92	0.49

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	4.71	2.13	20.65	0.30	8.06	0.09	9.88	2.63
95th-Percentile Queue Length [ft]	117.80	53.25	516.29	7.56	201.94	2.30	246.99	65.67
Approach Delay [s/veh]	24.04		148.13		43.59		42.40	
Approach LOS	C		F		E		E	
Intersection Delay [s/veh]	67.16							
Intersection LOS	F							

Intersection Level Of Service Report
Intersection 2: Silverado Trail/Sage Canyon Rd

Control Type:	Two-way stop	Delay (sec / veh):	1,849.1
Analysis Method:	HCM 2010	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	4.470

Intersection Setup

Name	Driveway			Sage Canyon Rd			Silverado Trail			Silverado Trail		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	1	0	0	1	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	170.00	150.00	100.00	110.00	100.00	100.00
Speed [mph]	15.00			40.00			55.00			55.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	Driveway			Sage Canyon Rd			Silverado Trail			Silverado Trail		
Base Volume Input [veh/h]	2	0	2	84	0	60	127	843	1	1	305	35
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	6	0	6	3	0	0	0	0	3
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	3	0	3	132	0	96	194	1265	2	2	458	58
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	0	1	33	0	24	49	316	1	1	115	14
Total Analysis Volume [veh/h]	3	0	3	132	0	96	194	1265	2	2	458	56
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane	No	Yes		
Storage Area [veh]	0	2	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.13	0.00	0.01	4.47	0.00	0.17	0.18	0.01	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	174.42	114.46	36.48	1849.08	1818.90	1733.35	9.20	0.00	0.00	11.59	0.00	0.00
Movement LOS	F	F	E	F	F	F	A	A	A	B	A	A
95th-Percentile Queue Length [veh]	0.46	0.46	0.46	25.68	25.68	25.68	0.67	0.00	0.00	0.01	0.00	0.00
95th-Percentile Queue Length [ft]	11.44	11.44	11.44	641.88	641.88	641.88	16.66	0.00	0.00	0.27	0.00	0.00
d_A, Approach Delay [s/veh]	105.45			1800.35			1.22			0.04		
Approach LOS	F			F			A			A		
d_I, Intersection Delay [s/veh]	186.76											
Intersection LOS	F											

Intersection Level Of Service Report
Intersection 1: Silverado Trail/Deer Park Rd

Control Type:	All-way stop	Delay (sec / veh):	37.2
Analysis Method:	HCM 2010	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.030

Intersection Setup

Name	Deer Park Rd			Deer Park Rd			Silverado Trail			Silverado Trail		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	1	0	0	1	0	0	1	0	0	1
Pocket Length [ft]	150.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	50.00	100.00	100.00	100.00
Speed [mph]	50.00			45.00			55.00			55.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	Deer Park Rd			Deer Park Rd			Silverado Trail			Silverado Trail		
Base Volume Input [veh/h]	16	137	52	195	147	45	32	131	11	64	137	89
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.40	1.40	1.40	1.40	1.40	1.40	1.40	1.40	1.40	1.40	1.40	1.40
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	1	0	1	1	1	1	0	0	1	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	22	192	74	273	207	64	46	184	15	90	193	125
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	6	48	19	68	52	16	12	46	4	23	48	31
Total Analysis Volume [veh/h]	22	192	74	273	207	64	46	184	15	90	193	125
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	449	494	480	534	441	487	451	504
Degree of Utilization, x	0.48	0.15	1.03	0.12	0.52	0.03	0.63	0.25

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	2.52	0.52	14.33	0.41	2.94	0.10	4.21	0.97
95th-Percentile Queue Length [ft]	62.89	13.05	358.32	10.13	73.57	2.38	105.29	24.25
Approach Delay [s/veh]	16.12		69.64		18.87		19.83	
Approach LOS	C		F		C		C	
Intersection Delay [s/veh]	37.20							
Intersection LOS	E							

Intersection Level Of Service Report
Intersection 2: Silverado Trail/Sage Canyon Rd

Control Type:	Two-way stop	Delay (sec / veh):	37.0
Analysis Method:	HCM 2010	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.521

Intersection Setup

Name	Driveway			Sage Canyon Rd			Silverado Trail			Silverado Trail		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	1	0	0	1	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	170.00	100.00	100.00	110.00	100.00	100.00
Speed [mph]	15.00			40.00			55.00			55.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	Driveway			Sage Canyon Rd			Silverado Trail			Silverado Trail		
Base Volume Input [veh/h]	1	0	4	58	0	53	46	307	4	2	300	60
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	3	0	3	4	0	0	0	0	3
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	2	0	6	90	0	83	73	461	6	3	450	93
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	0	2	23	0	21	18	115	2	1	113	23
Total Analysis Volume [veh/h]	2	0	6	90	0	83	73	461	6	3	450	93
Pedestrian Volume [ped/h]												

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane	No	Yes		
Storage Area [veh]	0	2	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

v/c, Movement V/C Ratio	0.01	0.00	0.01	0.52	0.00	0.14	0.07	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	30.89	25.13	11.29	37.01	34.89	22.47	8.78	0.00	0.00	8.30	0.00	0.00
Movement LOS	D	D	B	E	D	C	A	A	A	A	A	A
95th-Percentile Queue Length [veh]	0.07	0.07	0.07	2.85	2.85	2.85	0.23	0.00	0.00	0.01	0.00	0.00
95th-Percentile Queue Length [ft]	1.85	1.86	1.85	71.26	71.26	71.26	5.73	0.00	0.00	0.21	0.00	0.00
d_A, Approach Delay [s/veh]	16.19			30.03			1.19			0.05		
Approach LOS	C			D			A			A		
d_I, Intersection Delay [s/veh]	4.73											
Intersection LOS	E											

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Intersection Level Of Service Report
Intersection 1: Silverado Trail/Deer Park Rd

Control Type:	All-way stop	Delay (sec / veh):	15.4
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.665

Intersection Setup

Name	Deer Park Rd			Deer Park Rd			Silverado Trail			Silverado Trail		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	1	0	0	1	0	0	1	0	0	1
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	50.00	100.00	100.00	100.00
Speed [mph]	50.00			45.00			55.00			55.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	Deer Park Rd			Deer Park Rd			Silverado Trail			Silverado Trail		
Base Volume Input [veh/h]	16	137	52	195	147	45	32	131	11	64	137	89
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	2	0	1	1	2	2	0	0	1	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	16	137	54	195	148	46	34	133	11	64	138	89
Peak Hour Factor	0.9600	0.9600	0.9600	0.9600	0.9600	0.9600	0.9600	0.9600	0.9600	0.9600	0.9600	0.9600
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	4	36	14	51	39	12	9	35	3	17	36	23
Total Analysis Volume [veh/h]	17	143	56	203	154	48	35	139	11	67	144	93
Pedestrian Volume [ped/h]		0			0			0			0	

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Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	525	591	537	630	511	577	517	591
Degree of Utilization, x	0.30	0.09	0.67	0.08	0.34	0.02	0.41	0.16

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	1.28	0.31	4.89	0.25	1.50	0.06	1.96	0.56
95th-Percentile Queue Length [ft]	31.94	7.81	122.32	6.17	37.38	1.46	49.12	13.88
Approach Delay [s/veh]	11.72		20.20		13.08		13.01	
Approach LOS	B		C		B		B	
Intersection Delay [s/veh]	15.39							
Intersection LOS	C							

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Intersection Level Of Service Report
Intersection 2: Silverado Trail/Sage Canyon Rd

Control Type:	Two-way stop	Delay (sec / veh):	20.6
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.251

Intersection Setup

Name	Driveway			Sage Canyon Rd			Silverado Trail			Silverado Trail		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration		┼			┼			┐├			┐├	
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	1	0	0	1	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	170.00	100.00	100.00	110.00	100.00	100.00
Speed [mph]	15.00			40.00			55.00			55.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	Driveway			Sage Canyon Rd			Silverado Trail			Silverado Trail		
Base Volume Input [veh/h]	1	0	4	58	0	53	45	307	4	2	300	60
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	3	0	3	9	0	0	0	0	8
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	1	0	4	61	0	56	55	307	4	2	300	68
Peak Hour Factor	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	1	17	0	16	15	85	1	1	83	19
Total Analysis Volume [veh/h]	1	0	4	68	0	62	61	341	4	2	333	76
Pedestrian Volume [ped/h]		0			0			0			0	

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Version 5.00-00

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane	No	Yes		
Storage Area [veh]	0	2	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

v/c, Movement V/C Ratio	0.00	0.00	0.01	0.25	0.00	0.09	0.05	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	20.31	18.36	10.22	20.63	19.98	12.56	8.31	0.00	0.00	7.97	0.00	0.00
Movement LOS	C	C	B	C	C	B	A	A	A	A	A	A
95th-Percentile Queue Length [veh]	0.03	0.03	0.03	0.99	0.99	0.99	0.17	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft]	0.75	0.75	0.75	24.67	24.67	24.67	4.20	0.00	0.00	0.12	0.00	0.00
d_A, Approach Delay [s/veh]	12.24			16.82			1.25			0.04		
Approach LOS	B			C			A			A		
d_I, Intersection Delay [s/veh]	2.91											
Intersection LOS	C											

Intersection Level Of Service Report
Intersection 1: Silverado Trail/Deer Park Rd

Control Type:	All-way stop	Delay (sec / veh):	16.4
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.702

Intersection Setup

Name	Deer Park Rd			Deer Park Rd			Silverado Trail			Silverado Trail		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	1	0	0	1	0	0	1	0	0	1
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	50.00	100.00	100.00	100.00
Speed [mph]	50.00			45.00			55.00			55.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	Deer Park Rd			Deer Park Rd			Silverado Trail			Silverado Trail		
Base Volume Input [veh/h]	16	143	52	202	153	54	41	131	11	64	137	95
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	2	0	1	1	2	2	0	0	1	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	16	143	54	202	154	55	43	133	11	64	138	95
Peak Hour Factor	0.9600	0.9600	0.9600	0.9600	0.9600	0.9600	0.9600	0.9600	0.9600	0.9600	0.9600	0.9600
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	4	37	14	53	40	14	11	35	3	17	36	25
Total Analysis Volume [veh/h]	17	149	56	210	160	57	45	139	11	67	144	100
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	514	576	527	616	499	564	506	576
Degree of Utilization, x	0.32	0.10	0.70	0.09	0.37	0.02	0.42	0.17

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	1.39	0.32	5.51	0.30	1.68	0.06	2.04	0.62
95th-Percentile Queue Length [ft]	34.74	8.04	137.67	7.61	42.01	1.49	50.91	15.60
Approach Delay [s/veh]	12.17		22.05		13.79		13.36	
Approach LOS	B		C		B		B	
Intersection Delay [s/veh]	16.42							
Intersection LOS	C							

Intersection Level Of Service Report
Intersection 2: Silverado Trail/Sage Canyon Rd

Control Type:	Two-way stop	Delay (sec / veh):	21.9
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.296

Intersection Setup

Name	Driveway			Sage Canyon Rd			Silverado Trail			Silverado Trail		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	1	0	0	1	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	170.00	100.00	100.00	110.00	100.00	100.00
Speed [mph]	15.00			40.00			55.00			55.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	Driveway			Sage Canyon Rd			Silverado Trail			Silverado Trail		
Base Volume Input [veh/h]	1	0	4	65	0	59	51	310	4	2	303	67
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	3	0	3	9	0	0	0	0	8
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	1	0	4	69	0	62	60	310	4	2	303	75
Peak Hour Factor	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	1	19	0	17	17	86	1	1	84	21
Total Analysis Volume [veh/h]	1	0	4	77	0	69	67	344	4	2	337	83
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane	No	Yes		
Storage Area [veh]	0	2	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.01	0.30	0.00	0.10	0.06	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	21.22	18.92	10.24	21.89	21.17	13.43	8.36	0.00	0.00	7.96	0.00	0.00
Movement LOS	C	C	B	C	C	B	A	A	A	A	A	A
95th-Percentile Queue Length [veh]	0.03	0.03	0.03	1.23	1.23	1.23	0.19	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft]	0.77	0.77	0.77	30.68	30.68	30.68	4.68	0.00	0.00	0.12	0.00	0.00
d_A, Approach Delay [s/veh]	12.44			17.89			1.35			0.04		
Approach LOS	B			C			A			A		
d_I, Intersection Delay [s/veh]	3.29											
Intersection LOS	C											

Intersection Level Of Service Report
Intersection 1: Silverado Trail/Deer Park Rd

Control Type:	All-way stop	Delay (sec / veh):	37.4
Analysis Method:	HCM 2010	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.032

Intersection Setup

Name	Deer Park Rd			Deer Park Rd			Silverado Trail			Silverado Trail		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	1	0	0	1	0	0	1	0	0	1
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	50.00	100.00	100.00	100.00
Speed [mph]	50.00			45.00			55.00			55.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	Deer Park Rd			Deer Park Rd			Silverado Trail			Silverado Trail		
Base Volume Input [veh/h]	16	137	52	195	147	45	32	131	11	64	137	89
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.40	1.40	1.40	1.40	1.40	1.40	1.40	1.40	1.40	1.40	1.40	1.40
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	2	0	1	1	2	2	0	0	1	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	22	192	75	273	207	64	47	185	15	90	193	125
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	6	48	19	68	52	16	12	46	4	23	48	31
Total Analysis Volume [veh/h]	22	192	75	273	207	64	47	185	15	90	193	125
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	448	494	480	533	441	487	450	503
Degree of Utilization, x	0.48	0.15	1.03	0.12	0.53	0.03	0.63	0.25

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	2.52	0.53	14.38	0.41	2.99	0.10	4.22	0.97
95th-Percentile Queue Length [ft]	63.04	13.29	359.57	10.15	74.80	2.38	105.54	24.30
Approach Delay [s/veh]	16.14		70.10		19.03		19.88	
Approach LOS	C		F		C		C	
Intersection Delay [s/veh]	37.37							
Intersection LOS	E							

Intersection Level Of Service Report
Intersection 2: Silverado Trail/Sage Canyon Rd

Control Type:	Two-way stop	Delay (sec / veh):	38.3
Analysis Method:	HCM 2010	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.533

Intersection Setup

Name	Driveway			Sage Canyon Rd			Silverado Trail			Silverado Trail		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	1	0	0	1	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	170.00	100.00	100.00	110.00	100.00	100.00
Speed [mph]	15.00			40.00			55.00			55.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	Driveway			Sage Canyon Rd			Silverado Trail			Silverado Trail		
Base Volume Input [veh/h]	1	0	4	58	0	53	46	307	4	2	300	60
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	3	0	3	9	0	0	0	0	8
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	2	0	6	90	0	83	78	461	6	3	450	98
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	0	2	23	0	21	20	115	2	1	113	25
Total Analysis Volume [veh/h]	2	0	6	90	0	83	78	461	6	3	450	98
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane	No	Yes		
Storage Area [veh]	0	2	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

v/c, Movement V/C Ratio	0.01	0.00	0.01	0.53	0.00	0.15	0.08	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	31.53	25.66	11.30	38.32	38.13	23.29	8.82	0.00	0.00	8.30	0.00	0.00
Movement LOS	D	D	B	E	E	C	A	A	A	A	A	A
95th-Percentile Queue Length [veh]	0.08	0.08	0.08	2.96	2.96	2.96	0.25	0.00	0.00	0.01	0.00	0.00
95th-Percentile Queue Length [ft]	1.89	1.89	1.89	74.09	74.09	74.09	6.19	0.00	0.00	0.21	0.00	0.00
d_A, Approach Delay [s/veh]	16.36			31.11			1.26			0.05		
Approach LOS	C			D			A			A		
d_I, Intersection Delay [s/veh]	4.88											
Intersection LOS	E											

Intersection Level Of Service Report
Intersection 1: Silverado Trail/Deer Park Rd

Control Type:	All-way stop	Delay (sec / veh):	21.1
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.780

Intersection Setup

Name	Deer Park Rd			Deer Park Rd			Silverado Trail			Silverado Trail		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	1	0	0	1	0	0	1	0	0	1
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	50.00	100.00	100.00	100.00
Speed [mph]	50.00			45.00			55.00			55.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	Deer Park Rd			Deer Park Rd			Silverado Trail			Silverado Trail		
Base Volume Input [veh/h]	25	162	131	240	103	27	11	232	9	72	191	155
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	4	5	0	0	0	0	2	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	25	162	131	240	107	32	11	232	9	72	193	155
Peak Hour Factor	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	6	42	34	62	28	8	3	60	2	19	50	40
Total Analysis Volume [veh/h]	26	167	135	247	110	33	11	239	9	74	199	160
Pedestrian Volume [ped/h]		0			0			0			0	

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	456	506	458	529	459	506	462	519
Degree of Utilization, x	0.42	0.27	0.78	0.06	0.55	0.02	0.59	0.31

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	2.07	1.07	6.87	0.20	3.20	0.05	3.74	1.30
95th-Percentile Queue Length [ft]	51.80	26.67	171.79	4.97	80.04	1.36	93.52	32.52
Approach Delay [s/veh]	14.67		31.24		19.22		18.02	
Approach LOS	B		D		C		C	
Intersection Delay [s/veh]	21.12							
Intersection LOS	C							

Intersection Level Of Service Report
Intersection 2: Silverado Trail/Sage Canyon Rd

Control Type:	Two-way stop	Delay (sec / veh):	222.2
Analysis Method:	HCM 2010	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.148

Intersection Setup

Name	Driveway			Sage Canyon Rd			Silverado Trail			Silverado Trail		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	1	0	0	1	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	170.00	100.00	100.00	110.00	100.00	100.00
Speed [mph]	15.00			40.00			55.00			55.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	Driveway			Sage Canyon Rd			Silverado Trail			Silverado Trail		
Base Volume Input [veh/h]	2	0	2	84	0	60	127	843	1	1	305	35
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	16	0	11	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	2	0	2	100	0	71	127	843	1	1	305	35
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	0	1	26	0	19	33	222	0	0	80	9
Total Analysis Volume [veh/h]	2	0	2	105	0	75	134	887	1	1	321	37
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane	No	Yes		
Storage Area [veh]	0	2	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

v/c, Movement V/C Ratio	0.03	0.00	0.01	1.15	0.00	0.11	0.11	0.01	0.01	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	52.37	39.92	16.43	222.19	215.98	187.95	8.37	0.00	0.00	9.73	0.00	0.00
Movement LOS	F	E	C	F	F	F	A	A	A	A	A	A
95th-Percentile Queue Length [veh]	0.10	0.10	0.10	10.55	10.55	10.55	0.38	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft]	2.43	2.43	2.43	263.71	263.71	263.71	9.40	0.00	0.00	0.10	0.00	0.00
d_A, Approach Delay [s/veh]	34.40			207.93			1.10			0.03		
Approach LOS	D			F			A			A		
d_I, Intersection Delay [s/veh]	24.73											
Intersection LOS	F											

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Intersection Level Of Service Report
Intersection 1: Silverado Trail/Deer Park Rd

Control Type:	All-way stop	Delay (sec / veh):	15.4
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.664

Intersection Setup

Name	Deer Park Rd			Deer Park Rd			Silverado Trail			Silverado Trail		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	1	0	0	1	0	0	1	0	0	1
Pocket Length [ft]	50.00	100.00	100.00	50.00	100.00	100.00	50.00	100.00	50.00	50.00	100.00	100.00
Speed [mph]	50.00			45.00			55.00			55.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	Deer Park Rd			Deer Park Rd			Silverado Trail			Silverado Trail		
Base Volume Input [veh/h]	16	137	52	195	147	45	32	131	11	64	137	89
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	4	0	0	0	3	4	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	16	137	56	195	147	45	35	135	11	64	137	89
Peak Hour Factor	0.9600	0.9600	0.9600	0.9600	0.9600	0.9600	0.9600	0.9600	0.9600	0.9600	0.9600	0.9600
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	4	36	15	51	38	12	9	35	3	17	36	23
Total Analysis Volume [veh/h]	17	143	58	203	153	47	36	141	11	67	143	93
Pedestrian Volume [ped/h]	0			0			0			0		

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Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	525	590	535	629	511	577	517	590
Degree of Utilization, x	0.30	0.10	0.66	0.07	0.35	0.02	0.41	0.16

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	1.28	0.33	4.88	0.24	1.53	0.06	1.95	0.56
95th-Percentile Queue Length [ft]	31.99	8.13	122.02	6.04	38.33	1.46	48.87	13.91
Approach Delay [s/veh]	11.72		20.23		13.17		13.00	
Approach LOS	B		C		B		B	
Intersection Delay [s/veh]	15.40							
Intersection LOS	C							

Intersection Level Of Service Report
Intersection 2: Silverado Trail/Sage Canyon Rd

Control Type:	Two-way stop	Delay (sec / veh):	21.2
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.246

Intersection Setup

Name	Driveway			Sage Canyon Rd			Silverado Trail			Silverado Trail		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	1	0	0	1	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	170.00	100.00	100.00	110.00	100.00	100.00
Speed [mph]	15.00			40.00			55.00			55.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	Driveway			Sage Canyon Rd			Silverado Trail			Silverado Trail		
Base Volume Input [veh/h]	1	0	4	58	0	53	45	307	4	2	300	60
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	17	0	0	0	0	16
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	1	0	4	58	0	53	63	307	4	2	300	76
Peak Hour Factor	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	1	16	0	15	18	85	1	1	83	21
Total Analysis Volume [veh/h]	1	0	4	64	0	59	70	341	4	2	333	84
Pedestrian Volume [ped/h]		0			0			0			0	

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane	No	Yes		
Storage Area [veh]	0	2	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

v/c, Movement V/C Ratio	0.00	0.00	0.01	0.25	0.00	0.09	0.05	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	20.64	18.95	10.22	21.20	20.50	12.70	8.35	0.00	0.00	7.97	0.00	0.00
Movement LOS	C	C	B	C	C	B	A	A	A	A	A	A
95th-Percentile Queue Length [veh]	0.03	0.03	0.03	0.95	0.96	0.96	0.20	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft]	0.76	0.76	0.76	24.03	24.03	24.03	4.89	0.00	0.00	0.12	0.00	0.00
d_A, Approach Delay [s/veh]	12.34			17.13			1.41			0.04		
Approach LOS	B			C			A			A		
d_I, Intersection Delay [s/veh]	2.88											
Intersection LOS	C											

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Intersection Level Of Service Report
Intersection 1: Silverado Trail/Deer Park Rd

Control Type:	All-way stop	Delay (sec / veh):	22.3
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.809

Intersection Setup

Name	Deer Park Rd			Deer Park Rd			Silverado Trail			Silverado Trail		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	1	0	0	1	0	0	1	0	0	1
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	50.00	100.00	100.00	100.00
Speed [mph]	50.00			45.00			55.00			55.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	Deer Park Rd			Deer Park Rd			Silverado Trail			Silverado Trail		
Base Volume Input [veh/h]	25	164	131	245	108	34	15	232	9	72	191	157
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	4	5	0	0	0	0	2	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	25	164	131	245	112	39	15	232	9	72	193	157
Peak Hour Factor	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	6	42	34	63	29	10	4	60	2	19	50	40
Total Analysis Volume [veh/h]	26	169	135	253	115	40	15	239	9	74	199	162
Pedestrian Volume [ped/h]	0			0			0			0		

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Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	451	499	455	525	454	500	456	512
Degree of Utilization, x	0.43	0.27	0.81	0.08	0.56	0.02	0.60	0.32

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	2.15	1.09	7.52	0.25	3.36	0.05	3.83	1.35
95th-Percentile Queue Length [ft]	53.64	27.14	187.92	6.16	84.12	1.37	95.76	33.74
Approach Delay [s/veh]	14.98		33.66		19.92		18.43	
Approach LOS	B		D		C		C	
Intersection Delay [s/veh]	22.29							
Intersection LOS	C							

Intersection Level Of Service Report
Intersection 2: Silverado Trail/Sage Canyon Rd

Control Type:	Two-way stop	Delay (sec / veh):	246.6
Analysis Method:	HCM 2010	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.207

Intersection Setup

Name	Driveway			Sage Canyon Rd			Silverado Trail			Silverado Trail		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	1	0	0	1	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	170.00	100.00	100.00	110.00	100.00	100.00
Speed [mph]	15.00			40.00			55.00			55.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	Driveway			Sage Canyon Rd			Silverado Trail			Silverado Trail		
Base Volume Input [veh/h]	2	0	2	88	0	64	128	845	1	1	307	38
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	16	0	11	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	2	0	2	104	0	75	128	845	1	1	307	38
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	0	1	27	0	20	34	222	0	0	81	10
Total Analysis Volume [veh/h]	2	0	2	109	0	79	135	889	1	1	323	40
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane	No	Yes		
Storage Area [veh]	0	2	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.03	0.00	0.01	1.21	0.00	0.11	0.11	0.07	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	53.51	40.44	16.50	246.57	240.23	211.84	8.39	9.32	0.00	9.73	9.32	0.00
Movement LOS	F	E	C	F	F	F	A	A	A	A	A	A
95th-Percentile Queue Length [veh]	0.10	0.10	0.10	11.45	11.45	11.45	0.38	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft]	2.48	2.48	2.48	286.13	286.13	286.13	9.52	0.00	0.00	0.10	0.00	0.00
d_A, Approach Delay [s/veh]	35.00			231.97			1.11			0.03		
Approach LOS	E			F			A			A		
d_I, Intersection Delay [s/veh]	28.40											
Intersection LOS	F											

Intersection Level Of Service Report
Intersection 1: Silverado Trail/Deer Park Rd

Control Type:	All-way stop	Delay (sec / veh):	16.4
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.701

Intersection Setup

Name	Deer Park Rd			Deer Park Rd			Silverado Trail			Silverado Trail		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	1	0	0	1	0	0	1	0	0	1
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	50.00	100.00	100.00	100.00
Speed [mph]	50.00			45.00			55.00			55.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	Deer Park Rd			Deer Park Rd			Silverado Trail			Silverado Trail		
Base Volume Input [veh/h]	16	143	52	202	153	54	41	131	11	64	137	96
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	4	0	0	0	4	3	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	16	143	56	202	153	54	45	134	11	64	137	96
Peak Hour Factor	0.9600	0.9600	0.9600	0.9600	0.9600	0.9600	0.9600	0.9600	0.9600	0.9600	0.9600	0.9600
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	4	37	15	53	40	14	12	35	3	17	36	25
Total Analysis Volume [veh/h]	17	149	58	210	159	56	47	140	11	67	143	100
Pedestrian Volume [ped/h]		0			0			0			0	

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	513	575	527	615	499	584	505	575
Degree of Utilization, x	0.32	0.10	0.70	0.09	0.37	0.02	0.42	0.17

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	1.39	0.33	5.50	0.30	1.72	0.06	2.03	0.63
95th-Percentile Queue Length [ft]	34.80	8.37	137.57	7.48	43.08	1.49	50.66	15.64
Approach Delay [s/veh]	12.17		22.08		13.91		13.36	
Approach LOS	B		C		B		B	
Intersection Delay [s/veh]	16.43							
Intersection LOS	C							

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Intersection Level Of Service Report
Intersection 2: Silverado Trail/Sage Canyon Rd

Control Type:	Two-way stop	Delay (sec / veh):	22.4
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.290

Intersection Setup

Name	Driveway			Sage Canyon Rd			Silverado Trail			Silverado Trail		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	1	0	0	1	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	170.00	100.00	100.00	110.00	100.00	100.00
Speed [mph]	15.00			40.00			55.00			55.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	Driveway			Sage Canyon Rd			Silverado Trail			Silverado Trail		
Base Volume Input [veh/h]	1	0	4	66	0	59	51	310	4	2	303	67
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	16	0	0	0	0	16
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	1	0	4	66	0	59	67	310	4	2	303	83
Peak Hour Factor	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	1	18	0	16	19	86	1	1	84	23
Total Analysis Volume [veh/h]	1	0	4	73	0	66	74	344	4	2	337	92
Pedestrian Volume [ped/h]	0			0			0			0		

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Version 5.00-00

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane	No	Yes		
Storage Area [veh]	0	2	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.01	0.29	0.00	0.10	0.07	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	21.67	19.48	10.24	22.38	21.61	13.47	8.41	0.00	0.00	7.98	0.00	0.00
Movement LOS	C	C	B	C	C	B	A	A	A	A	A	A
95th-Percentile Queue Length [veh]	0.03	0.03	0.03	1.19	1.19	1.19	0.21	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft]	0.78	0.78	0.78	29.86	29.86	29.86	5.25	0.00	0.00	0.12	0.00	0.00
d_A, Approach Delay [s/veh]	12.53			18.15			1.47			0.04		
Approach LOS	B			C			A			A		
d_I, Intersection Delay [s/veh]	3.23											
Intersection LOS	C											

Intersection Level Of Service Report
Intersection 1: Silverado Trail/Deer Park Rd

Control Type:	All-way stop	Delay (sec / veh):	68.0
Analysis Method:	HCM 2010	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.257

Intersection Setup

Name	Deer Park Rd			Deer Park Rd			Silverado Trail			Silverado Trail		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	1	0	0	1	0	0	1	0	0	1
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	50.00	100.00	100.00	100.00
Speed [mph]	50.00			45.00			55.00			55.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	Deer Park Rd			Deer Park Rd			Silverado Trail			Silverado Trail		
Base Volume Input [veh/h]	25	162	131	240	103	27	11	232	9	72	191	155
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.40	1.40	1.40	1.40	1.40	1.40	1.40	1.40	1.40	1.40	1.40	1.40
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	4	5	0	0	0	0	2	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	35	227	183	336	148	43	15	325	13	101	269	217
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	9	57	46	84	37	11	4	81	3	25	67	54
Total Analysis Volume [veh/h]	35	227	183	336	148	43	15	325	13	101	269	217
Pedestrian Volume [ped/h]		0			0			0			0	

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	391	427	484	435	404	437	404	444
Degree of Utilization, x	0.67	0.43	1.26	0.10	0.84	0.03	0.92	0.49

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	4.71	2.11	21.01	0.33	8.01	0.09	9.86	2.62
95th-Percentile Queue Length [ft]	117.63	52.72	525.32	8.17	200.31	2.30	246.48	65.57
Approach Delay [s/veh]	23.99		150.53		43.19		42.26	
Approach LOS	C		F		E		E	
Intersection Delay [s/veh]	68.02							
Intersection LOS	F							

Intersection Level Of Service Report
Intersection 2: Silverado Trail/Sage Canyon Rd

Control Type:	Two-way stop	Delay (sec / veh):	1,968.9
Analysis Method:	HCM 2010	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	4.735

Intersection Setup

Name	Driveway			Sage Canyon Rd			Silverado Trail			Silverado Trail		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	1	0	0	1	1	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	170.00	100.00	100.00	110.00	100.00	100.00
Speed [mph]	15.00			40.00			55.00			55.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	Driveway			Sage Canyon Rd			Silverado Trail			Silverado Trail		
Base Volume Input [veh/h]	2	0	2	84	0	60	127	843	1	1	305	35
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	16	0	11	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	3	0	3	142	0	101	191	1265	2	2	458	53
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	0	1	36	0	25	48	316	1	1	115	13
Total Analysis Volume [veh/h]	3	0	3	142	0	101	191	1265	2	2	458	53
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane	No	Yes		
Storage Area [veh]	0	2	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

v/c, Movement V/C Ratio	0.13	0.00	0.01	4.74	0.00	0.17	0.18	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	174.17	112.78	38.45	1968.89	1939.21	1855.02	9.17	0.00	0.00	11.59	0.00	0.00
Movement LOS	F	F	E	F	F	F	A	A	A	B	A	A
95th-Percentile Queue Length [veh]	0.46	0.46	0.46	27.50	27.50	27.50	0.65	0.00	0.00	0.01	0.00	0.00
95th-Percentile Queue Length [ft]	11.43	11.43	11.43	687.39	687.39	687.39	16.49	0.00	0.00	0.27	0.00	0.00
d_A, Approach Delay [s/veh]	105.31			1921.57			1.20			0.05		
Approach LOS	F			F			A			A		
d_I, Intersection Delay [s/veh]	211.42											
Intersection LOS	F											

Intersection Level Of Service Report
Intersection 1: Silverado Trail/Deer Park Rd

Control Type:	All-way stop	Delay (sec / veh):	37.4
Analysis Method:	HCM 2010	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.032

Intersection Setup

Name	Deer Park Rd			Deer Park Rd			Silverado Trail			Silverado Trail		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	1	0	0	1	0	0	1	0	0	1
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	50.00	100.00	100.00	100.00
Speed [mph]	50.00			45.00			55.00			55.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	Deer Park Rd			Deer Park Rd			Silverado Trail			Silverado Trail		
Base Volume Input [veh/h]	16	137	52	195	147	45	32	131	11	64	137	89
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.40	1.40	1.40	1.40	1.40	1.40	1.40	1.40	1.40	1.40	1.40	1.40
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	4	0	0	0	4	3	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	22	192	77	273	206	63	49	186	15	90	192	125
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	6	48	19	68	52	16	12	47	4	23	48	31
Total Analysis Volume [veh/h]	22	192	77	273	206	63	49	186	15	90	192	125
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	448	493	479	532	440	487	450	502
Degree of Utilization, x	0.48	0.16	1.03	0.12	0.53	0.03	0.63	0.25

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	2.53	0.55	14.36	0.40	3.07	0.10	4.21	0.97
95th-Percentile Queue Length [ft]	63.20	13.74	359.12	10.00	76.66	2.38	105.15	24.36
Approach Delay [s/veh]	16.15		70.25		19.27		19.87	
Approach LOS	C		F		C		C	
Intersection Delay [s/veh]	37.37							
Intersection LOS	E							

Intersection Level Of Service Report
Intersection 2: Silverado Trail/Sage Canyon Rd

Control Type:	Two-way stop	Delay (sec / veh):	39.5
Analysis Method:	HCM 2010	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.534

Intersection Setup

Name	Driveway			Sage Canyon Rd			Silverado Trail			Silverado Trail		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration		+			+			┐├			┐├	
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	1	0	0	1	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	170.00	100.00	100.00	110.00	100.00	100.00
Speed [mph]	15.00			40.00			55.00			55.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	Driveway			Sage Canyon Rd			Silverado Trail			Silverado Trail		
Base Volume Input [veh/h]	1	0	4	58	0	53	46	307	4	2	300	60
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	16	0	0	0	0	16
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	2	0	6	87	0	80	85	461	6	3	450	106
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	0	2	22	0	20	21	115	2	1	113	27
Total Analysis Volume [veh/h]	2	0	6	87	0	80	85	461	6	3	450	106
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane	No	Yes		
Storage Area [veh]	0	2	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

v/c, Movement V/C Ratio	0.01	0.00	0.01	0.53	0.00	0.14	0.06	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	32.26	26.46	11.31	39.50	37.19	23.75	8.87	0.00	0.00	8.30	0.00	0.00
Movement LOS	D	D	B	E	E	C	A	A	A	A	A	A
95th-Percentile Queue Length [veh]	0.08	0.08	0.08	2.95	2.95	2.95	0.27	0.00	0.00	0.01	0.00	0.00
95th-Percentile Queue Length [ft]	1.92	1.92	1.92	73.84	73.84	73.84	6.84	0.00	0.00	0.21	0.00	0.00
d_A, Approach Delay [s/veh]	16.54			31.96			1.37			0.04		
Approach LOS	C			D			A			A		
d_I, Intersection Delay [s/veh]	4.88											
Intersection LOS	E											

Appendix C

Winery Traffic Information/Trip Generation Forms

Winery Traffic Information / Trip Generation Sheet

Project Name: Maxville Lake Winery Project Scenario: Permitted

Traffic during a Typical Weekday

Number of FT employees:	7	x 3.05 one-way trips per employee	=	21 daily trips.
Number of PT employees:	0	x 1.90 one-way trips per employee	=	0 daily trips.
Average number of weekday visitors:	10	/ 2.6 visitors per vehicle x 2 one-way trips	=	8 daily trips.
Gallons of production:	59000	/ 1,000 x .009 truck trips daily[3] x 2 one-way trips	=	1 daily trips.
		Total	=	30 **daily trips.**
		Number of total weekday trips x .38	=	11 **PM peak trips.**

Traffic during a Typical Saturday

Number of FT employees (on Saturdays):	7	x 3.05 one-way trips per employee	=	21 daily trips.
Number of PT employees (on Saturdays):	0	x 1.90 one-way trips per employee	=	0 daily trips.
Average number of weekend visitors:	30	/ 2.8 visitors per vehicle x 2 one-way trips	=	21 daily trips.
		Total	=	43 **daily trips.**
		Number of total Saturday trips x .57	=	25 **PM peak trips.**

Traffic during a Crush Saturday

Number of FT employees (during crush):	7	x 3.05 one-way trips per employee	=	21 daily trips.
Number of PT employees (during crush):	0	x 1.90 one-way trips per employee	=	0 daily trips.
Average number of weekend visitors:	30	/ 2.8 visitors per vehicle x 2 one-way trips	=	21 daily trips.
Gallons of production:	59000	/ 1,000 x .009 truck trips daily x 2 one-way trips	=	1 daily trips.
Avg. annual tons of grape on-haul:	700	x .11 truck trips daily[4] x 2 one-way trips	=	10 daily trips.
		Total	=	54 **daily trips.**
		Number of total Saturday trips x .57	=	31 **PM peak trips.**

Largest Marketing Event- Additional Traffic

Number of event staff (largest event):	3	x 2 one-way trips per staff person	=	6 trips.
Number of visitors (largest event):	75	/ 2.8 visitors per vehicle x 2 one-way trips	=	54 trips.
Number of special event truck trips (largest event):	0	x 2 one-way trips	=	0 trips.

[3] Assumes 1.47 materials & supplies trips + 0.8 case goods trips per 1,000 gallons of production / 250 days per year (see *Traffic Information Sheet Addendum* for reference).
[4] Assumes 4 tons per trip / 36 crush days per year (see *Traffic Information Sheet Addendum* for reference).

Winery Traffic Information / Trip Generation Sheet

Project Name: Maxville Lake Winery Project Scenario: Proposed

Traffic during a Typical Weekday

Number of FT employees: 15	x 3.05 one-way trips per employee	=	45.8	daily trips.
Number of PT employees: 9.0	x 1.90 one-way trips per employee	=	17.1	daily trips.
Average number of weekday visitors: 20	/ 2.6 visitors per vehicle x 2 one-way trips	=	15.4	daily trips.
Gallons of production: 240000	/ 1,000 x .009 truck trips daily[3] x 2 one-way trips	=	4.3	daily trips.
	Total	=	83.0	daily trips.
	Number of total weekday trips x .38	=	32.0	PM peak trips.

Traffic during a Typical Saturday

Number of FT employees (on Saturdays): 7	x 3.05 one-way trips per employee	=	21.4	daily trips.
Number of PT employees (on Saturdays): 4.0	x 1.90 one-way trips per employee	=	7.6	daily trips.
Average number of weekend visitors: 60	/ 2.8 visitors per vehicle x 2 one-way trips	=	42.9	daily trips.
	Total	=	72.0	daily trips.
	Number of total Saturday trips x .57	=	41.0	PM peak trips.

Traffic during a Crush Saturday

Number of FT employees (during crush): 12	x 3.05 one-way trips per employee	=	36.6	daily trips.
Number of PT employees (during crush): 4.0	x 1.90 one-way trips per employee	=	7.6	daily trips.
Average number of weekend visitors: 60	/ 2.8 visitors per vehicle x 2 one-way trips	=	42.9	daily trips.
Gallons of production: 240000	/ 1,000 x .009 truck trips daily x 2 one-way trips	=	4.3	daily trips.
Avg. annual tons of grape on-haul: 1455	x .11 truck trips daily [4] x 2 one-way trips	=	20.2	daily trips.
	Total	=	112.0	daily trips.
	Number of total Saturday trips x .57	=	64.0	PM peak trips.

Largest Marketing Event- Additional Traffic

Number of event staff (largest event): 7	x 2 one-way trips per staff person	=	14	trips.
Number of visitors (largest event): 100	/ 2.8 visitors per vehicle x 2 one-way trips	=	71	trips.
Number of special event truck trips (largest event): 0	x 2 one-way trips	=	0	trips.

[3] Assumes 1.47 materials & supplies trips + 0.8 case goods trips per 1,000 gallons of production / 250 days per year (see *Traffic Information Sheet Addendum* for reference).
[4] Assumes 4 tons per trip / 36 crush days per year (see *Traffic Information Sheet Addendum* for reference).

Appendix D

Traffic Counts and Left-Turn Lane Warrant Graph

Prepared by NDS/ATD

VOLUME

Chiles Pope Valley Rd & Maxville Lake Winery

Day: Saturday
Date: 10/21/2017

City: St Helena
Project #: CA17_7857_001

DAILY TOTALS	NB	SB	EB	WB	Total
	513	628	0	0	1,141

AM Period	NB		SB		EB	WB	TOTAL	
00:00	1		4				5	
00:15	2		0				2	
00:30	2		3				5	
00:45	2	7	1	8			3	15
01:00	0		2				2	
01:15	0		3				3	
01:30	1		1				2	
01:45	1	2	1	7			2	9
02:00	0		0				0	
02:15	0		1				1	
02:30	0		1				1	
02:45	5	5	0	2			5	7
03:00	6		2				8	
03:15	6		0				6	
03:30	10		0				10	
03:45	1	23	1	3			2	26
04:00	4		1				5	
04:15	6		4				10	
04:30	5		0				5	
04:45	1	16	2	7			3	23
05:00	1		2				3	
05:15	1		5				6	
05:30	2		2				4	
05:45	3	7	3	12			6	19
06:00	3		7				10	
06:15	3		11				14	
06:30	3		5				8	
06:45	7	16	4	27			11	43
07:00	4		4				8	
07:15	2		11				13	
07:30	4		7				11	
07:45	4	14	8	30			12	44
08:00	6		4				10	
08:15	2		11				13	
08:30	2		11				13	
08:45	6	16	6	32			12	48
09:00	12		7				19	
09:15	6		8				14	
09:30	7		11				18	
09:45	10	35	12	38			22	73
10:00	5		8				13	
10:15	3		3				6	
10:30	11		15				26	
10:45	10	29	12	38			22	67
11:00	8		14				22	
11:15	6		12				18	
11:30	8		8				16	
11:45	6	28	11	45			17	73
TOTALS		198		249				447
SPLIT %		44.3%		55.7%				39.2%

PM Period	NB		SB		EB	WB	TOTAL	
12:00	6		9				15	
12:15	6		8				14	
12:30	4		11				15	
12:45	14	30	17	45			31	75
13:00	7		8				15	
13:15	11		11				22	
13:30	9		19				28	
13:45	5	32	14	52			19	84
14:00	7		18				25	
14:15	12		12				24	
14:30	8		21				29	
14:45	10	37	18	69			28	106
15:00	11		17				28	
15:15	4		14				18	
15:30	7		13				20	
15:45	5	27	6	50			11	77
16:00	5		12				17	
16:15	17		10				27	
16:30	7		13				20	
16:45	8	37	16	51			24	88
17:00	12		6				18	
17:15	11		3				14	
17:30	8		10				18	
17:45	10	41	12	31			22	72
18:00	7		7				14	
18:15	5		5				10	
18:30	14		9				23	
18:45	10	36	7	28			17	64
19:00	4		1				5	
19:15	3		5				8	
19:30	5		2				7	
19:45	3	15	2	10			5	25
20:00	5		3				8	
20:15	6		6				12	
20:30	5		4				9	
20:45	8	24	1	14			9	38
21:00	6		2				8	
21:15	4		6				10	
21:30	4		2				6	
21:45	3	17	0	10			3	27
22:00	0		2				2	
22:15	2		5				7	
22:30	3		4				7	
22:45	7	12	2	13			9	25
23:00	2		2				4	
23:15	1		3				4	
23:30	4		1				5	
23:45	0	7	0	6			0	13
TOTALS		315		379				694
SPLIT %		45.4%		54.6%				60.8%

DAILY TOTALS	NB	SB	EB	WB	Total
	513	628	0	0	1,141

AM Peak Hour	09:00	10:30	10:30	PM Peak Hour	16:15	14:30	14:15
AM Pk Volume	35	53	88	PM Pk Volume	44	70	109
Pk Hr Factor	0.729	0.883	0.846	Pk Hr Factor	0.647	0.833	0.940
7 - 9 Volume	30	62	92	4 - 6 Volume	78	82	160
7 - 9 Peak Hour	07:15	07:45	07:45	4 - 6 Peak Hour	16:15	16:00	16:15
7 - 9 Pk Volume	16	34	48	4 - 6 Pk Volume	44	51	89
Pk Hr Factor	0.667	0.773	0.923	Pk Hr Factor	0.647	0.797	0.824

Prepared by NDS/ATD

VOLUME

Chiles Pope Valley Rd & Maxville Lake Winery

Day: Sunday
Date: 10/22/2017

City: St Helena
Project #: CA17_7857_001

DAILY TOTALS	NB	SB	EB	WB	Total
	345	519	0	0	864

AM Period	NB		SB		EB	WB	TOTAL		PM Period	NB		SB		EB	WB	TOTAL	
00:00	0		2				2		12:00	7		12				19	
00:15	0		0				0		12:15	5		6				11	
00:30	2		1				3		12:30	6		14				20	
00:45	0	2	1	4			1	6	12:45	9	27	12	44			21	71
01:00	2		1				3		13:00	5		12				17	
01:15	1		1				2		13:15	4		22				26	
01:30	1		1				2		13:30	6		12				18	
01:45	0	4	0	3			0	7	13:45	6	21	9	55			15	76
02:00	1		1				2		14:00	15		8				23	
02:15	0		2				2		14:15	11		19				30	
02:30	0		2				2		14:30	7		15				22	
02:45	0	1	2	7			2	8	14:45	8	41	14	56			22	97
03:00	1		0				1		15:00	9		8				17	
03:15	0		2				2		15:15	2		15				17	
03:30	0		0				0		15:30	4		12				16	
03:45	0	1	0	2			0	3	15:45	5	20	13	48			18	68
04:00	1		1				2		16:00	9		12				21	
04:15	0		2				2		16:15	8		9				17	
04:30	0		1				1		16:30	5		10				15	
04:45	0	1	1	5			1	6	16:45	6	28	10	41			16	69
05:00	0		0				0		17:00	11		8				19	
05:15	0		0				0		17:15	10		11				21	
05:30	0		1				1		17:30	13		11				24	
05:45	0		2	3			2	3	17:45	7	41	8	38			15	79
06:00	1		1				2		18:00	6		10				16	
06:15	0		6				6		18:15	8		10				18	
06:30	2		1				3		18:30	7		5				12	
06:45	3	6	1	9			4	15	18:45	9	30	3	28			12	58
07:00	1		0				1		19:00	8		5				13	
07:15	1		3				4		19:15	7		1				8	
07:30	3		3				6		19:30	6		3				9	
07:45	1	6	2	8			3	14	19:45	4	25	4	13			8	38
08:00	3		4				7		20:00	2		2				4	
08:15	3		2				5		20:15	4		4				8	
08:30	2		2				4		20:30	4		8				12	
08:45	1	9	8	16			9	25	20:45	3	13	2	16			5	29
09:00	2		9				11		21:00	5		2				7	
09:15	4		11				15		21:15	2		1				3	
09:30	0		6				6		21:30	2		2				4	
09:45	2	8	10	36			12	44	21:45	2	11	2	7			4	18
10:00	4		12				16		22:00	3		2				5	
10:15	5		9				14		22:15	2		2				4	
10:30	3		5				8		22:30	3		0				3	
10:45	7	19	10	36			17	55	22:45	1	9	1	5			2	14
11:00	4		5				9		23:00	0		0				0	
11:15	2		11				13		23:15	3		4				7	
11:30	4		5				9		23:30	1		2				3	
11:45	7	17	11	32			18	49	23:45	1	5	1	7			2	12
TOTALS		74		161				235	TOTALS		271		358				629
SPLIT %		31.5%		68.5%				27.2%	SPLIT %		43.1%		56.9%				72.8%

DAILY TOTALS	NB	SB	EB	WB	Total
	345	519	0	0	864

AM Peak Hour	11:45	11:45	11:45	PM Peak Hour	14:00	12:30	14:00
AM Pk Volume	25	43	68	PM Pk Volume	41	60	97
Pk Hr Factor	0.893	0.768	0.850	Pk Hr Factor	0.683	0.682	0.808
7 - 9 Volume	15	24	39	4 - 6 Volume	69	79	148
7 - 9 Peak Hour	07:30	08:00	08:00	4 - 6 Peak Hour	17:00	16:00	16:45
7 - 9 Pk Volume	10	16	25	4 - 6 Pk Volume	41	41	80
Pk Hr Factor	0.833	0.500	0.694	Pk Hr Factor	0.788	0.854	0.833

Prepared by NDS/ATD

VOLUME

Chiles Pope Valley Rd & Maxville Lake Winery

Day: Monday
Date: 10/23/2017

City: St Helena
Project #: CA17_7857_001

DAILY TOTALS	NB	SB	EB	WB	Total
	477	521	0	0	998

AM Period	NB		SB		EB	WB	TOTAL		PM Period	NB		SB		EB	WB	TOTAL	
00:00	0		0				0		12:00	6		7				13	
00:15	0		0				0		12:15	4		9				13	
00:30	0		0				0		12:30	1		6				7	
00:45	0		0				0		12:45	8	19	15	37			23	56
01:00	1		3				4		13:00	7		2				9	
01:15	1		0				1		13:15	5		8				13	
01:30	0		2				2		13:30	5		7				12	
01:45	0	2	0	5			0	7	13:45	5	22	4	21			9	43
02:00	1		3				4		14:00	3		11				14	
02:15	0		0				0		14:15	7		11				18	
02:30	1		2				3		14:30	9		17				26	
02:45	0	2	0	5			0	7	14:45	8	27	15	54			23	81
03:00	1		0				1		15:00	10		11				21	
03:15	0		4				4		15:15	1		15				16	
03:30	1		2				3		15:30	8		11				19	
03:45	0	2	1	7			1	9	15:45	12	31	11	48			23	79
04:00	2		5				7		16:00	12		12				24	
04:15	1		1				2		16:15	11		11				22	
04:30	3		0				3		16:30	4		7				11	
04:45	1	7	1	7			2	14	16:45	7	34	8	38			15	72
05:00	2		3				5		17:00	7		19				26	
05:15	3		8				11		17:15	6		10				16	
05:30	6		3				9		17:30	12		13				25	
05:45	8	19	8	22			16	41	17:45	8	33	5	47			13	80
06:00	19		10				29		18:00	5		3				8	
06:15	16		8				24		18:15	9		3				12	
06:30	16		7				23		18:30	12		5				17	
06:45	14	65	10	35			24	100	18:45	6	32	2	13			8	45
07:00	12		11				23		19:00	6		1				7	
07:15	5		10				15		19:15	5		2				7	
07:30	7		17				24		19:30	6		1				7	
07:45	9	33	6	44			15	77	19:45	1	18	4	8			5	26
08:00	6		5				11		20:00	3		0				3	
08:15	6		11				17		20:15	1		1				2	
08:30	6		10				16		20:30	5		1				6	
08:45	5	23	9	35			14	58	20:45	3	12	0	2			3	14
09:00	5		8				13		21:00	1		2				3	
09:15	7		5				12		21:15	1		4				5	
09:30	7		4				11		21:30	2		1				3	
09:45	0	19	10	27			10	46	21:45	3	7	1	8			4	15
10:00	9		6				15		22:00	1		1				2	
10:15	5		7				12		22:15	2		1				3	
10:30	7		3				10		22:30	1		0				1	
10:45	6	27	7	23			13	50	22:45	3	7	0	2			3	9
11:00	10		13				23		23:00	1		2				3	
11:15	4		6				10		23:15	1		0				1	
11:30	9		7				16		23:30	1		1				2	
11:45	8	31	2	28			10	59	23:45	2	5	2	5			4	10
TOTALS		230		238				468	TOTALS		247		283				530
SPLIT %		49.1%		50.9%				46.9%	SPLIT %		46.6%		53.4%				53.1%

DAILY TOTALS	NB	SB	EB	WB	Total
	477	521	0	0	998

AM Peak Hour	06:00	06:45	06:00	PM Peak Hour	15:30	14:30	14:15
AM Pk Volume	65	48	100	PM Pk Volume	43	58	88
Pk Hr Factor	0.855	0.706	0.862	Pk Hr Factor	0.896	0.853	0.846
7 - 9 Volume	56	79	135	4 - 6 Volume	67	85	152
7 - 9 Peak Hour	07:00	07:00	07:00	4 - 6 Peak Hour	16:00	16:45	16:45
7 - 9 Pk Volume	33	44	77	4 - 6 Pk Volume	34	50	82
Pk Hr Factor	0.688	0.647	0.802	Pk Hr Factor	0.708	0.658	0.788

Prepared by NDS/ATD

VOLUME

Chiles Pope Valley Rd & Maxville Lake Winery

Day: Tuesday
Date: 10/24/2017

City: St Helena
Project #: CA17_7857_001

DAILY TOTALS	NB	SB	EB	WB	Total
	473	476	0	0	949

AM Period	NB		SB		EB	WB	TOTAL		PM Period	NB		SB		EB	WB	TOTAL	
00:00	0		0				0		12:00	6		8				14	
00:15	1		0				1		12:15	3		4				7	
00:30	1		2				3		12:30	4		17				21	
00:45	1	3	3	5			4	8	12:45	8	21	9	38			17	59
01:00	0		0				0		13:00	2		3				5	
01:15	0		1				1		13:15	4		4				8	
01:30	1		4				5		13:30	5		6				11	
01:45	0	1	1	6			1	7	13:45	7	18	5	18			12	36
02:00	0		0				0		14:00	10		8				18	
02:15	0		0				0		14:15	7		8				15	
02:30	1		4				5		14:30	13		9				22	
02:45	0	1	4	8			4	9	14:45	7	37	21	46			28	83
03:00	2		0				2		15:00	12		14				26	
03:15	4		0				4		15:15	9		8				17	
03:30	3		0				3		15:30	6		5				11	
03:45	1	10	0				1	10	15:45	12	39	6	33			18	72
04:00	1		1				2		16:00	5		9				14	
04:15	0		2				2		16:15	13		3				16	
04:30	1		2				3		16:30	6		5				11	
04:45	2	4	0	5			2	9	16:45	4	28	11	28			15	56
05:00	2		2				4		17:00	10		7				17	
05:15	5		6				11		17:15	7		4				11	
05:30	8		7				15		17:30	9		9				18	
05:45	8	23	6	21			14	44	17:45	5	31	6	26			11	57
06:00	13		9				22		18:00	7		5				12	
06:15	5		8				13		18:15	6		2				8	
06:30	14		13				27		18:30	4		3				7	
06:45	10	42	15	45			25	87	18:45	5	22	2	12			7	34
07:00	3		14				17		19:00	8		4				12	
07:15	4		11				15		19:15	4		0				4	
07:30	3		8				11		19:30	7		2				9	
07:45	13	23	10	43			23	66	19:45	4	23	0	6			4	29
08:00	13		12				25		20:00	3		2				5	
08:15	9		7				16		20:15	10		1				11	
08:30	9		10				19		20:30	2		2				4	
08:45	4	35	8	37			12	72	20:45	3	18	1	6			4	24
09:00	8		5				13		21:00	3		0				3	
09:15	8		3				11		21:15	3		5				8	
09:30	6		5				11		21:30	3		0				3	
09:45	3	25	11	24			14	49	21:45	0	9	1	6			1	15
10:00	2		8				10		22:00	0		2				2	
10:15	9		7				16		22:15	2		1				3	
10:30	7		3				10		22:30	0		2				2	
10:45	5	23	8	26			13	49	22:45	2	4	1	6			3	10
11:00	4		12				16		23:00	4		0				4	
11:15	7		4				11		23:15	3		0				3	
11:30	6		9				15		23:30	1		0				1	
11:45	8	25	6	31			14	56	23:45	0	8	0				0	8
TOTALS		215		251				466	TOTALS		258		225				483
SPLIT %		46.1%		53.9%				49.1%	SPLIT %		53.4%		46.6%				50.9%

DAILY TOTALS	NB	SB	EB	WB	Total
	473	476	0	0	949

AM Peak Hour	07:45	06:30	06:00	PM Peak Hour	14:30	14:15	14:30
AM Pk Volume	44	53	87	PM Pk Volume	41	52	93
Pk Hr Factor	0.846	0.883	0.806	Pk Hr Factor	0.788	0.619	0.830
7 - 9 Volume	58	80	138	4 - 6 Volume	59	54	113
7 - 9 Peak Hour	07:45	07:00	07:45	4 - 6 Peak Hour	16:15	16:45	16:45
7 - 9 Pk Volume	44	43	83	4 - 6 Pk Volume	33	31	61
Pk Hr Factor	0.846	0.768	0.830	Pk Hr Factor	0.635	0.705	0.847

ALL TRAFFIC DATA

(916) 771-8700
orders@atdtraffic.com

File Name : 17-7856-002
Date : 10/24/2017

Unshifted Count = All Vehicles & Uturns

	Silverado Trail Southbound					Deer Park Rd Westbound					Silverado Trail Northbound					Deer Park Rd Eastbound						
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	Total	Uturns Total
16:00	1	65	4	0	70	50	26	10	0	86	15	49	38	0	102	5	33	35	0	73	331	0
16:15	5	63	2	0	70	52	31	7	0	90	16	54	42	0	112	8	31	30	0	69	341	0
16:30	5	56	0	0	61	73	18	2	0	93	23	42	35	0	100	6	46	31	0	83	337	0
16:45	0	48	3	0	51	65	28	8	0	101	18	46	40	0	104	6	52	35	0	93	349	0
Total	11	232	9	0	252	240	103	27	0	370	72	191	155	0	418	25	162	131	0	318	1358	0
17:00	2	50	4	0	56	52	25	7	0	84	12	32	32	0	76	3	47	30	0	80	296	0
17:15	3	39	4	0	46	52	20	6	0	78	24	41	40	0	105	5	64	31	0	100	329	0
17:30	3	49	3	0	55	58	27	1	0	86	14	32	44	0	90	2	42	32	0	76	307	0
17:45	2	41	2	0	45	48	22	1	0	71	13	29	36	0	78	3	45	25	0	73	267	0
Total	10	179	13	0	202	210	94	15	0	319	63	134	152	0	349	13	198	118	0	329	1199	0
Grand Total	21	411	22	0	454	450	197	42	0	689	135	325	307	0	767	38	360	249	0	647	2557	0
Apprch %	4.6%	90.5%	4.8%	0.0%		65.3%	28.6%	6.1%	0.0%		17.6%	42.4%	40.0%	0.0%		5.9%	55.6%	38.5%	0.0%			
Total %	0.8%	16.1%	0.9%	0.0%	17.8%	17.6%	7.7%	1.6%	0.0%	26.9%	5.3%	12.7%	12.0%	0.0%	30.0%	1.5%	14.1%	9.7%	0.0%	25.3%	100.0%	

PM PEAK HOUR	Silverado Trail Southbound					Deer Park Rd Westbound					Silverado Trail Northbound					Deer Park Rd Eastbound					
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	Total
Peak Hour Analysis From 16:00 to 17:00																					
Peak Hour For Entire Intersection Begins at 16:00																					
16:00	1	65	4	0	70	50	26	10	0	86	15	49	38	0	102	5	33	35	0	73	331
16:15	5	63	2	0	70	52	31	7	0	90	16	54	42	0	112	8	31	30	0	69	341
16:30	5	56	0	0	61	73	18	2	0	93	23	42	35	0	100	6	46	31	0	83	337
16:45	0	48	3	0	51	65	28	8	0	101	18	46	40	0	104	6	52	35	0	93	349
Total Volume	11	232	9	0	252	240	103	27	0	370	72	191	155	0	418	25	162	131	0	318	1358
% App Total	4.4%	92.1%	3.6%	0.0%		64.9%	27.8%	7.3%	0.0%		17.2%	45.7%	37.1%	0.0%		7.9%	50.9%	41.2%	0.0%		
PHF	.550	.892	.563	.000	.900	.822	.831	.675	.000	.916	.783	.884	.923	.000	.933	.781	.779	.936	.000	.855	.973

ALL TRAFFIC DATA

(916) 771-8700
orders@atdtraffic.com

File Name : 17-7856-001
Date : 10/24/2017

Unshifted Count = All Vehicles & Uturns

	Silverado Trail Southbound					Sage Canyon Rd Westbound					Silverado Trail Northbound					Sage Canyon Rd Eastbound						
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	Total	Uturns Total
16:00	38	202	0	0	240	25	0	18	0	43	1	75	12	0	88	0	0	2	0	2	373	0
16:15	29	216	1	0	246	24	0	14	0	38	0	72	9	0	81	1	0	0	0	1	366	0
16:30	32	214	0	0	246	24	0	16	0	40	0	86	10	0	96	1	0	0	0	1	383	0
16:45	28	211	0	0	239	11	0	12	0	23	0	72	4	0	76	0	0	0	0	0	338	0
Total	127	843	1	0	971	84	0	60	0	144	1	305	35	0	341	2	0	2	0	4	1460	0
17:00	30	176	0	0	206	12	0	11	0	23	0	63	23	0	86	0	0	2	0	2	317	0
17:15	26	188	0	0	214	26	0	18	0	44	0	77	7	0	84	2	0	0	0	2	344	0
17:30	15	155	0	0	170	15	0	8	0	23	0	77	7	0	84	1	0	0	0	1	278	0
17:45	20	138	0	0	158	9	0	11	0	20	0	47	12	0	59	0	0	0	0	0	237	0
Total	91	657	0	0	748	62	0	48	0	110	0	264	49	0	313	3	0	2	0	5	1176	0
Grand Total	218	1500	1	0	1719	146	0	108	0	254	1	569	84	0	654	5	0	4	0	9	2636	0
Apprch %	12.7%	87.3%	0.1%	0.0%		57.5%	0.0%	42.5%	0.0%		0.2%	87.0%	12.8%	0.0%		55.6%	0.0%	44.4%	0.0%			
Total %	8.3%	56.9%	0.0%	0.0%	65.2%	5.5%	0.0%	4.1%	0.0%	9.6%	0.0%	21.6%	3.2%	0.0%	24.8%	0.2%	0.0%	0.2%	0.0%	0.3%	100.0%	

PM PEAK HOUR	Silverado Trail Southbound					Sage Canyon Rd Westbound					Silverado Trail Northbound					Sage Canyon Rd Eastbound					
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	Total
Peak Hour Analysis From 16:00 to 17:00																					
Peak Hour For Entire Intersection Begins at 16:00																					
16:00	38	202	0	0	240	25	0	18	0	43	1	75	12	0	88	0	0	2	0	2	373
16:15	29	216	1	0	246	24	0	14	0	38	0	72	9	0	81	1	0	0	0	1	366
16:30	32	214	0	0	246	24	0	16	0	40	0	86	10	0	96	1	0	0	0	1	383
16:45	28	211	0	0	239	11	0	12	0	23	0	72	4	0	76	0	0	0	0	0	338
Total Volume	127	843	1	0	971	84	0	60	0	144	1	305	35	0	341	2	0	2	0	4	1460
% App Total	13.1%	86.8%	0.1%	0.0%		58.3%	0.0%	41.7%	0.0%		0.3%	89.4%	10.3%	0.0%		50.0%	0.0%	50.0%	0.0%		
PHF	.836	.976	.250	.000	.987	.840	.000	.833	.000	.837	.250	.887	.729	.000	.888	.500	.000	.250	.000	.500	.953

ALL TRAFFIC DATA

(916) 771-8700
orders@aldtraffic.com

File Name : 17-7856-002
Date : 10/21/2017

Unshifted Count = All Vehicles & Uturns

	Silverado Trail Southbound					Deer Park Rd Westbound					Silverado Trail Northbound					Deer Park Rd Eastbound						
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	Total	Uturns Total
12:00	8	29	3	0	40	40	37	13	0	90	12	29	26	0	67	2	31	10	0	43	240	0
12:15	6	27	1	0	34	35	35	10	0	80	16	34	22	0	72	2	32	12	0	46	232	0
12:30	7	29	1	0	37	36	32	7	0	75	19	42	25	0	86	7	35	10	0	52	250	0
12:45	7	30	2	0	39	54	51	7	0	112	14	35	20	0	69	3	36	15	0	54	274	0
Total	28	115	7	0	150	165	155	37	0	357	61	140	93	0	294	14	134	47	0	195	996	0
13:00	13	28	4	0	45	50	34	12	0	96	18	36	28	0	82	2	30	4	0	36	259	0
13:15	8	37	3	0	48	43	27	8	0	78	20	32	25	1	78	1	30	15	0	46	250	1
13:30	4	36	2	0	42	48	35	18	0	101	11	34	16	0	61	10	41	18	0	69	273	0
13:45	9	39	4	0	52	55	24	14	0	93	17	46	24	0	87	1	35	4	0	40	272	0
Total	34	140	13	0	187	196	120	52	0	368	66	148	93	1	308	14	136	41	0	191	1054	1
Grand Total	62	255	20	0	337	361	275	89	0	725	127	288	186	1	602	28	270	88	0	386	2050	1
Apprch %	18.4%	75.7%	5.9%	0.0%		49.8%	37.9%	12.3%	0.0%		21.1%	47.8%	30.9%	0.2%		7.3%	69.9%	22.8%	0.0%			
Total %	3.0%	12.4%	1.0%	0.0%	16.4%	17.6%	13.4%	4.3%	0.0%	35.4%	6.2%	14.0%	9.1%	0.0%	29.4%	1.4%	13.2%	4.3%	0.0%	18.8%	100.0%	

NOON PEAK	Silverado Trail Southbound					Deer Park Rd Westbound					Silverado Trail Northbound					Deer Park Rd Eastbound					
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	Total
Peak Hour Analysis From 12:45 to 13:45																					
Peak Hour For Entire Intersection Begins at 12:45																					
12:45	7	30	2	0	39	54	51	7	0	112	14	35	20	0	69	3	36	15	0	54	274
13:00	13	28	4	0	45	50	34	12	0	96	18	36	28	0	82	2	30	4	0	36	259
13:15	8	37	3	0	48	43	27	8	0	78	20	32	25	1	78	1	30	15	0	46	250
13:30	4	36	2	0	42	48	35	18	0	101	11	34	16	0	61	10	41	18	0	69	273
Total Volume	32	131	11	0	174	195	147	45	0	387	63	137	89	1	290	16	137	52	0	205	1056
% App Total	18.4%	75.3%	6.3%	0.0%		50.4%	38.0%	11.6%	0.0%		21.7%	47.2%	30.7%	0.3%		7.8%	66.8%	25.4%	0.0%		
PHF	.615	.885	.688	.000	.906	.903	.721	.625	.000	.864	.788	.951	.795	.250	.884	.400	.835	.722	.000	.743	.964

ALL TRAFFIC DATA

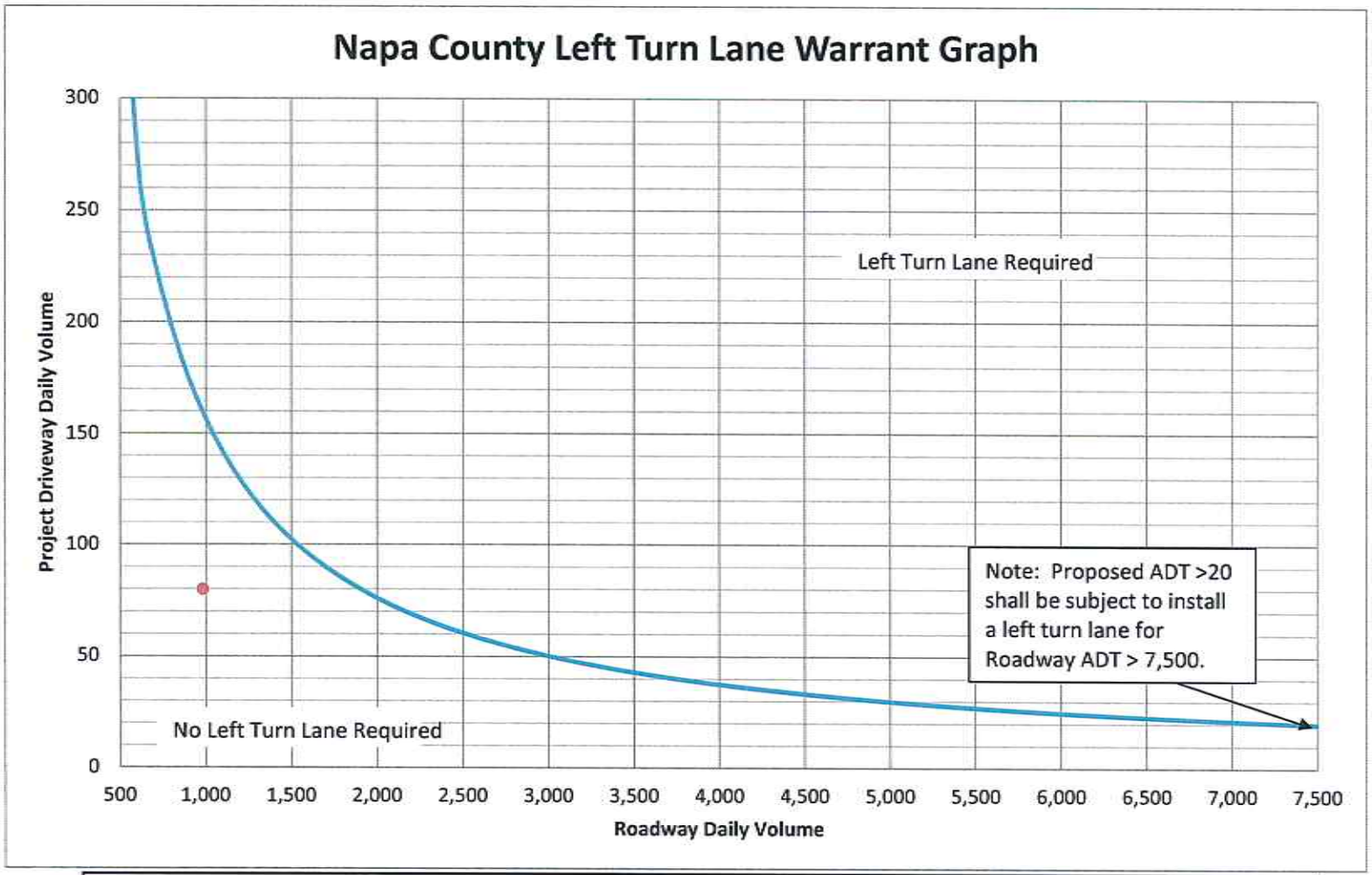
(916) 771-8700
orders@atdtraffic.com

File Name : 17-7856-001
Date : 10/21/2017

Unshifted Count = All Vehicles & Uturns

	Silverado Trail Southbound					Sage Canyon Rd Westbound					Silverado Trail Northbound					Sage Canyon Rd Eastbound						
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	Total	Uturns Total
12:00	9	56	1	0	66	12	0	16	0	28	2	76	13	0	91	1	0	1	0	2	187	0
12:15	10	64	0	1	75	15	0	11	0	26	1	64	5	0	70	1	0	0	0	1	172	1
12:30	10	71	1	0	82	15	1	13	0	29	0	83	12	0	95	0	1	0	0	1	207	0
12:45	16	55	1	0	72	16	0	11	0	27	0	93	9	0	102	0	0	1	0	1	202	0
Total	45	246	3	1	295	58	1	51	0	110	3	316	39	0	358	2	1	2	0	5	768	1
13:00	12	74	1	0	87	23	0	9	0	32	0	73	22	0	95	0	0	1	0	1	215	0
13:15	5	64	1	0	70	6	0	13	0	19	0	64	13	0	77	1	0	1	0	2	168	0
13:30	19	88	0	0	107	10	0	16	0	26	1	94	11	0	106	0	0	0	0	0	239	0
13:45	8	81	2	2	93	19	0	15	0	34	1	69	14	0	84	0	0	2	0	2	213	2
Total	44	307	4	2	357	58	0	53	0	111	2	300	60	0	362	1	0	4	0	5	835	2
Grand Total	89	553	7	3	652	116	1	104	0	221	5	616	99	0	720	3	1	6	0	10	1603	3
Apprch %	13.7%	84.8%	1.1%	0.5%		52.5%	0.5%	47.1%	0.0%		0.7%	85.6%	13.8%	0.0%		30.0%	10.0%	60.0%	0.0%			
Total %	5.6%	34.5%	0.4%	0.2%	40.7%	7.2%	0.1%	6.5%	0.0%	13.8%	0.3%	38.4%	6.2%	0.0%	44.9%	0.2%	0.1%	0.4%	0.0%	0.6%	100.0%	

NOON PEAK	Silverado Trail Southbound					Sage Canyon Rd Westbound					Silverado Trail Northbound					Sage Canyon Rd Eastbound					
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	Total
Peak Hour Analysis From 13:00 to 14:00																					
Peak Hour For Entire Intersection Begins at 13:00																					
13:00	12	74	1	0	87	23	0	9	0	32	0	73	22	0	95	0	0	1	0	1	215
13:15	5	64	1	0	70	6	0	13	0	19	0	64	13	0	77	1	0	1	0	2	168
13:30	19	88	0	0	107	10	0	16	0	26	1	94	11	0	106	0	0	0	0	0	239
13:45	8	81	2	2	93	19	0	15	0	34	1	69	14	0	84	0	0	2	0	2	213
Total Volume	44	307	4	2	357	58	0	53	0	111	2	300	60	0	362	1	0	4	0	5	835
% App Total	12.3%	86.0%	1.1%	0.6%		52.3%	0.0%	47.7%	0.0%		0.6%	82.9%	16.6%	0.0%		20.0%	0.0%	80.0%	0.0%		
PHF	.579	.872	.500	.250	.834	.630	.000	.828	.000	.816	.500	.798	.682	.000	.854	.250	.000	.500	.000	.625	.873



Volume Derivation

	ROADWAY	WINERY
Monday	998	83
Tuesday	949	83
Saturday	1141	72
Sunday	864	72

	ROADWAY	WINERY
Weekday Average	973.5	83.0
ADT (5xdaily + Sat + Sun)	981.8	79.9