

Traffic Impact Study Duckhorn Vineyards Winery Major Modification P19-00097-MOD

Duckhorn Vineyards Winery Use Permit Major Modification P19-00097-MOD Planning Commission Hearing – May 3, 2023



Traffic Impact Study for the Duckhorn Vineyards Use Permit Modification



Prepared for the County of Napa File Number: P19-00097

Submitted by **W-Trans**

June 10, 2021





This page intentionally left blank

Table of Contents

Executive Summary	1
Introduction	3
Transportation Setting	5
Capacity Analysis	10
Vehicle Miles Traveled	
Alternative Modes	
Access and Circulation	
Parking	
Conclusions and Recommendations	
Study Participants and References	40

Figures

1.	Study Area and Existing Lane Configurations	4
2.	Existing Traffic Volumes	15
3.	Near-Term Traffic Volumes	
4.	Cumulative Traffic Volumes	21
5.	Site Plan	24
6.	Project Traffic Volumes	

Tables

2.Collision Rates for the Study Roadway Segments	1.	Collision Rates at the Study Intersections	6
3. Existing and Planned Bicycle Facilities in the Project Vicinity	2.	Collision Rates for the Study Roadway Segments	7
 4. Two-Way Stop-Controlled Intersection Level of Service Criteria	3.	Existing and Planned Bicycle Facilities in the Project Vicinity	9
5. Automobile Level of Service Criteria 1* 6. Existing Peak Hour Intersection Levels of Service 14 7. Existing Peak Hour Roadway Segment Levels of Service 16 8. Near-Term Peak Hour Intersection Levels of Service 17 9. Near-Term Peak Hour Roadway Segment Levels of Service 17 10. Cumulative Peak Hour Intersection Levels of Service 16 11. Cumulative Peak Hour Roadway Segment Levels of Service 20 12. Trip Generation Summary During Harvest 22 13. Trip Distribution Assumptions 25 14. Existing and Existing plus Project Peak Hour Intersection Levels of Service 25 15. Near-Term and Near-Term plus Project Peak Hour Intersection Levels of Service 27 16. Cumulative plus Project Peak Hour Intersection Levels of Service 27 16. Cumulative plus Project Peak Hour Intersection Levels of Service 27	4.	Two-Way Stop-Controlled Intersection Level of Service Criteria	10
6. Existing Peak Hour Intersection Levels of Service. 14 7. Existing Peak Hour Roadway Segment Levels of Service. 16 8. Near-Term Peak Hour Intersection Levels of Service 17 9. Near-Term Peak Hour Roadway Segment Levels of Service 16 10. Cumulative Peak Hour Intersection Levels of Service 16 11. Cumulative Peak Hour Roadway Segment Levels of Service 20 12. Trip Generation Summary During Harvest 22 13. Trip Distribution Assumptions 25 14. Existing and Existing plus Project Peak Hour Intersection Levels of Service 25 15. Near-Term and Near-Term plus Project Peak Hour Intersection Levels of Service 27 16. Cumulative and Cumulative plus Project Peak Hour Intersection Levels of Service 27 15. Near-Term and Near-Term Plus Project Peak Hour Intersection Levels of Service 27 16. Cumulative and Cumulative plus Project Peak Hour Intersection Levels of Service 27	5.	Automobile Level of Service Criteria	11
7. Existing Peak Hour Roadway Segment Levels of Service 16 8. Near-Term Peak Hour Intersection Levels of Service 17 9. Near-Term Peak Hour Roadway Segment Levels of Service 16 10. Cumulative Peak Hour Intersection Levels of Service 20 11. Cumulative Peak Hour Roadway Segment Levels of Service 22 12. Trip Generation Summary During Harvest 22 13. Trip Distribution Assumptions 25 14. Existing and Existing plus Project Peak Hour Intersection Levels of Service 25 15. Near-Term and Near-Term plus Project Peak Hour Intersection Levels of Service 27 16. Cumulative and Cumulative plus Project Peak Hour Intersection Levels of Service 27 16. Cumulative plus Project Peak Hour Intersection Levels of Service 27	6.	Existing Peak Hour Intersection Levels of Service	14
 8. Near-Term Peak Hour Intersection Levels of Service	7.	Existing Peak Hour Roadway Segment Levels of Service	16
9. Near-Term Peak Hour Roadway Segment Levels of Service 19 10. Cumulative Peak Hour Intersection Levels of Service 20 11. Cumulative Peak Hour Roadway Segment Levels of Service 22 12. Trip Generation Summary During Harvest 22 13. Trip Distribution Assumptions 25 14. Existing and Existing plus Project Peak Hour Intersection Levels of Service 25 15. Near-Term and Near-Term plus Project Peak Hour Intersection Levels of Service 27 16. Cumulative and Cumulative plus Project Peak Hour Intersection Levels of Service 28	8.	Near-Term Peak Hour Intersection Levels of Service	17
10. Cumulative Peak Hour Intersection Levels of Service 20 11. Cumulative Peak Hour Roadway Segment Levels of Service 22 12. Trip Generation Summary During Harvest 22 13. Trip Distribution Assumptions 25 14. Existing and Existing plus Project Peak Hour Intersection Levels of Service 25 15. Near-Term and Near-Term plus Project Peak Hour Intersection Levels of Service 27 16. Cumulative and Cumulative plus Project Peak Hour Intersection Levels of Service 28	9.	Near-Term Peak Hour Roadway Segment Levels of Service	19
11. Cumulative Peak Hour Roadway Segment Levels of Service 22 12. Trip Generation Summary During Harvest 22 13. Trip Distribution Assumptions 25 14. Existing and Existing plus Project Peak Hour Intersection Levels of Service 25 15. Near-Term and Near-Term plus Project Peak Hour Intersection Levels of Service 27 16. Cumulative and Cumulative plus Project Peak Hour Intersection Levels of Service 28	10.	Cumulative Peak Hour Intersection Levels of Service	20
12. Trip Generation Summary During Harvest 23 13. Trip Distribution Assumptions 25 14. Existing and Existing plus Project Peak Hour Intersection Levels of Service 25 15. Near-Term and Near-Term plus Project Peak Hour Intersection Levels of Service 27 16. Cumulative and Cumulative plus Project Peak Hour Intersection Levels of Service 28	11.	Cumulative Peak Hour Roadway Segment Levels of Service	22
13. Trip Distribution Assumptions 24 14. Existing and Existing plus Project Peak Hour Intersection Levels of Service 25 15. Near-Term and Near-Term plus Project Peak Hour Intersection Levels of Service 27 16. Cumulative and Cumulative plus Project Peak Hour Intersection Levels of Service 28	12.	Trip Generation Summary During Harvest	23
 Existing and Existing plus Project Peak Hour Intersection Levels of Service	13.	Trip Distribution Assumptions	25
 Near-Term and Near-Term plus Project Peak Hour Intersection Levels of Service	14.	Existing and Existing plus Project Peak Hour Intersection Levels of Service	25
16. Cumulative and Cumulative plus Project Peak Hour Intersection Levels of Service	15.	Near-Term and Near-Term plus Project Peak Hour Intersection Levels of Service	27
	16.	Cumulative and Cumulative plus Project Peak Hour Intersection Levels of Service	28



Appendices

- A. Collision Rate Calculations
- B. Traffic Counts and Heavy Vehicle Data
- C. Intersection Level of Service Calculations
- D. Roadway Segment Level of Service Calculations
- E. Napa County Winery Traffic Information/Trip Generation Forms and Site-Specific Peak Hour Calculations
- F. Left-Turn Lane Warrant Graphs
- G. AutoTURN Exhibits



Executive Summary

The proposed project is an update to the current Conditional Use Permit for Duckhorn Vineyards located at 1000 Lodi Lane to allow for an increase in visitation from a maximum of 82 to 219 daily guests and an increase in production from 160,000 to 300,000 gallons annually. As part of the project, a new wine production building would be constructed on the west parcel and the existing hospitality areas on the east parcel would be expanded.

The change in operation resulting from the proposed CUP modification would be expected to result in a net increase of 120 daily trips on a Friday during harvest, including 17 new trips during the p.m. peak hour, and a net increase of 112 new trips on a Saturday during harvest, with 17 new trips during the peak hour. Adjusting the number of net new trips anticipated on Friday to a typical weekday average, and accounting for a two-month harvest season, the project would be expected to result in an average of approximately 79 new daily trips per weekday over the course of the year.

Analysis indicates that the study roadway segments of SR 29, Lodi Lane, and Silverado Trail and the study intersection of Silverado Trail/Lodi Lane are projected to operate acceptably at LOS D or better under Existing, Near-Term, and Cumulative Conditions, and would continue to do so with the addition of project-generated traffic. The study intersection of SR 29/Lodi Lane would operate unacceptably at LOS E or F under Existing and Near-Term Conditions, though the project would result in less than five seconds of additional delay, so the effect is considered acceptable. However, under Cumulative Conditions, the stop-controlled approach at SR 29/Lodi Lane would operate at LOS F and the project would result in an adverse effect since project trips represent more than 10 percent of the anticipated growth during each peak hour. To offset the project's effect under Cumulative volumes, it is recommended that the westbound approach at SR 29/Lodi Lane be restriped to include a dedicated right-turn lane. The cost for this improvement could be shared with the Inn at the Abbey since it was also recommended for that project.

As of the date of this analysis, the County of Napa has not yet established thresholds of significance related to Vehicle Miles Traveled (VMT) so the project was assessed based on guidance provided by the California Governor's Office of Planning and Research (OPR) in the publication *Transportation Impacts (SB 743) CEQA Guidelines Update and Technical Advisory*. Under this guidance, the project can be presumed to have a less-than-significant impact on VMT since it would result in fewer than 110 new daily trips per typical weekday.

Existing pedestrian and transit facilities serving the site are limited, though given the rural location of the site and anticipated demand for these modes, this is considered an acceptable condition. The existing Class II bike lanes on Silverado Trail along with the shared use of Lodi Lane with motorists and planned facilities consisting of the Vine Trail and a Class III bike route on SR 29 would provide adequate access for bicyclists. The proposed vehicular parking supply is adequate to accommodate the anticipated peak parking demand, though it is recommended that secure parking facilities for ten bicycles be provided on-site.

Access to the Estate House and hospitality areas would continue to occur via the existing driveway on Lodi Lane approximately 200 feet west of Silverado Trail. The new West Winery would be accessed from an existing driveway on Lodi Lane approximate halfway between SR 29 and Silverado Trail. Sight distances were field measured at each driveway location and determined to be adequate for the posted speed limit.



A left-turn lane is warranted at the east driveway under existing volumes based on application of the County's criterion but, even with project trips added, would not be warranted at the west driveway. Although a left-turn lane is warranted at the east driveway, a review of the roadside conditions indicates that numerous trees would need to be removed to accommodate the turn lane, which conflicts with the County's policies to retain heritage trees; conditions to request an exception are therefore satisfied. The driveway to the West Winery should be improved to meet the County's design standards for rural commercial driveways.

Given that study intersection of Silverado Trail/Lodi Lane as well as the study segments of Silverado Trail both north and south of the intersection have calculated collision rates above the statewide average for similar facilities, it is recommended that whichever project is approved first between the Inn at the Abbey or Duckhorn Vineyards work with the County to install a northbound speed feedback sign on Silverado Trail near the Melka Estates Winery driveway. Additionally, the applicant should work with the County to install a speed feedback sign in the southbound direction near Glass Mountain Road.



Introduction

This report presents an analysis of the potential transportation impacts that would be associated with the proposed modification to the Conditional Use Permit (CUP) for Duckhorn Vineyards located at 1000 Lodi Lane in the County of Napa. The traffic study was completed in accordance with the criteria established by the County of Napa, reflects a scope of work requested by County staff, and is consistent with standard traffic engineering techniques.

Prelude

The purpose of a traffic impact study is to provide County staff and policy makers with data that they can use to make an informed decision regarding the potential transportation impacts of a proposed project, and any associated improvements that would be required in order to mitigate these impacts to an acceptable level under the California Environmental Quality Act (CEQA), the County's General Plan, or other policies. Impacts relative to access for pedestrians, bicyclists, and to transit are addressed in the context of the CEQA criteria. Consistent with Senate Bill (SB) 743, the project's transportation impacts were analyzed using Vehicle Miles Traveled (VMT). While no longer a part of the CEQA review process, vehicular traffic service levels at key intersections and on affected roadway segments were evaluated for consistency with General Plan policies by determining the number of new trips that the proposed project would be expected to generate, distributing these trips to the surrounding street system based on anticipated travel patterns specific to the proposed project, then analyzing the effect the new traffic would be expected to have on the study intersections and roadway segments.

Project Profile

The proposed project would include construction of a new wine production building on the recently acquired adjacent parcel, expansion of the existing Estate House, and development of additional outdoor hospitality areas. As part of the project, the current Use Permit would be updated to allow for an increase in maximum daily visitation from 82 to 219 guests and an increase in production from 160,000 to 300,000 gallons annually. The largest marketing event would be decreased from 600 to 400 guests. No changes are proposed to staffing levels. The County of Napa file number for this project is P19-00097.

The project site is located on the north side of Lodi Lane, as shown in Figure 1.





Traffic Impact Study for the Duckhorn Vineyards Use Permit Modification **Figure 1 – Study Area and Existing Lane Configurations**



Transportation Setting

Operational Analysis

Study Area and Periods

The study area consists of the following intersections and roadway segments. Operating conditions during the Friday and Saturday afternoon peak periods were evaluated as these time periods reflect the highest trip generation potential for the proposed project based on a review of count data collected at the driveway of the existing winery and tasting room. In the study area, the Friday afternoon peak hour generally occurred between 2:30 p.m. and 3:30 p.m., while the Saturday afternoon peak hour generally occurred between 2:00 p.m. and 3:00 p.m. Consistent with the County's *Administrative Draft Traffic Impact Study Guidelines*, dated August 3, 2020, six analysis scenarios were evaluated as is typical for winery analyses, including Existing, Existing plus Project, Baseline (Existing plus Approved), Baseline plus Project, Future, and Future plus Project Conditions.

Study Intersections

- 1. St. Helena Highway (SR 29)/Lodi Lane
- 2. Silverado Trail/Lodi Lane

Study Roadways

- 1. SR 29 North of Lodi Lane
- 2. SR 29 South of Lodi Lane
- 3. Lodi Lane West of Project Driveway
- 4. Lodi Lane East of Project Driveway
- 5. Silverado Trail North of Lodi Lane
- 6. Silverado Trail South of Lodi Lane

Study Intersections

For the purposes of this study, SR 29 and Silverado Trail were considered to run north-south and Lodi Lane was considered to run east-west.

SR 29/Lodi Lane is an unsignalized tee-intersection stop-controlled on the westbound Lodi Lane approach. A left-turn lane is provided on the southbound SR 29 approach and the Lodi Lane approach has a flared right-turn area with storage space to accommodate approximately two vehicles.

Silverado Trail/Lodi Lane is an unsignalized tee-intersection stop-controlled on the eastbound Lodi Lane approach. The eastbound approach has a flared right-turn area with storage space to accommodate approximately one vehicle.

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



Study Roadways

SR 29 runs northwest-southeast in the project vicinity and has two 12-foot travel lanes with a posted speed limit of 50 miles per hour (mph). The roadway is mostly straight near Lodi Lane; however, there is a grade of approximately four percent in the northbound direction. The roadway varies in width between approximately 36 and 46 feet depending on the width of the shoulders and the presence of a left-turn lane. Based on count data collected during harvest in August 2017, the average daily traffic (ADT) near Lodi Lane is approximately 15,000 on weekdays and 14,000 on weekend days.

Lodi Lane is a rural two-lane roadway that runs southwest-northeast between SR 29 and Silverado Trail. The roadway varies in width between approximately 24 and 30 feet, has a marked centerline and a posted speed limit of 40 mph, except for the bridge over the Napa River which has a width of 16 feet and functions as a one-lane bridge. Based on traffic counts collected specifically for this study in October 2019, the roadway has an ADT of approximately 1,470 on weekdays and 1,000 on weekend days to the west of the Duckhorn Vineyards driveway.

Silverado Trail is a two-lane roadway that winds its way mostly parallel to SR 29 throughout the Napa Valley. The segment between Bournemouth Road and Glass Mountain Road has a 12-foot travel lane and five-foot bike lane in each direction, is approximately 34 feet wide, and has a posted speed limit of 50 mph, though the horizontal curves to the south of Lodi Lane have a posted advisory speed of 40 mph and the curve to the north has a posted advisory speed of 35 mph.

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 for the study intersections and roadway segments were calculated based on records available from the California Highway Patrol (CHP) as published in their Statewide Integrated Traffic Records System (SWITRS) reports. The most current five-year period available at the time of the analysis is October 1, 2014 through September 30, 2019.

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 *2016 Collision Data on California State Highways*, California Department of Transportation (Caltrans). The intersection of SR 29/Lodi Lane had a collision rate below the statewide average indicating that the intersection is operating acceptably with regards to safety; however, the intersection of Silverado Trail/Lodi Lane had a collision rate slightly higher than the statewide average despite having only three incidents in five years, which warranted further analysis. The collision rate calculations for the study intersections and segments are provided in Appendix A.

Table 1 – Collision Rates at the Study Intersections							
Study Intersection	Number of Collisions (2014-2019)	Calculated Collision Rate (c/mve)	Statewide Average Collision Rate (c/mve)				
1. SR 29/Lodi Ln	3	0.11	0.16				
2. Silverado Trail/Lodi Ln	3	0.22	0.16				

Note: c/mve = collisions per million vehicles entering; **bold** text denotes collision rate exceeds statewide average



Further review of the individual collisions that occurred at Silverado Trail/Lodi Lane revealed that all three of the collisions involved a motorist travelling northbound on Silverado Trial. Two of the collisions involved a following motorist traveling at an unsafe speed and rear-ending a preceding motorist slowing to turn left onto Lodi Lane. The other collision was a broadside due to travelling on the wrong side of the road. The same collision pattern was noted in the *Traffic Impact Study for the Inn at the Abbey*, W-Trans, 2019, which included the following language.

"Physical improvements such as installation of a left-turn lane are not feasible due to lack of rightof-way and geographic constraints, including drainage facilities on one side and a hill on the other. Consideration was given to installation of all-way stop-controls but doing so would result in LOS F operation so is not recommended. The two horizontal curves to the south of the intersection have a posted advisory speed of 40 mph and there is approximately 300 feet of stopping sight distance available in the northbound direction while traversing the curves, which is the exact amount recommended by Caltrans for speeds of 40 mph, so adequate stopping sight distance is provided for vehicles traveling at the advisory speed. However, if motorists travel at speeds above the posted advisory speed, sight distance is less than the recommended minimum. Installation of a speed feedback sign near the curves would make motorists more aware of their speed and encourage them to travel at a more appropriate speed for the amount of stopping sight distance available. It is recommended that the applicant work with County staff to install a speed feedback sign on Silverado Trail in the northbound direction between the driveway to Melka Estates Winery and the horizontal curve. Additionally, increased enforcement may reduce unsafe speeds on Silverado Trail and consequently the frequency of rear-end collisions."

It is recommended that whichever project is approved first between the Inn at the Abbey and Duckhorn Vineyards work with the County to install a speed feedback sign at the location identified above.

Collision rates for the study roadway segments are compared to statewide averages for similar facilities in Table 2. It is noted that Ehlers Lane was used as the northern boundary for SR 29 while Glass Mountain Road was used as the northern boundary for Silverado Trail and Deer Park Road was used as the southern boundary for both SR 29 and Silverado Trail. SR 29 experienced collisions at below-average rates and Silverado Trail had calculated collision rates higher than the statewide average; there were no collisions reported on Lodi Lane during the evaluation period.

Tal	Table 2 – Collision Rates for the Study Roadway Segments							
Study Roadway Segment		Number of Collisions (2014-2019)	Calculated Collision Rate (c/mvm)	Statewide Average Collision Rate (c/mvm)				
1.	SR 29 – North of Lodi Ln	9	0.61	1.10				
2.	SR 29 – South of Lodi Ln	15	0.97	1.10				
3.	Lodi Ln – West of Project Dwy	0	0.00	0.98				
4.	Lodi Ln – East of Project Dwy	0	0.00	0.98				
5.	Silverado Trail – North of Lodi Ln	10	1.69	1.12				
6.	Silverado Trail – South of Lodi Ln	10	1.64	1.12				

Note: c/mvm = collisions per million vehicles miles; bold text denotes collision rate exceeds statewide average



A total of 10 collisions were reported on each segment of Silverado Trail, to both the north and south of Lodi Lane. Considering both segments, 11 of the 20 collisions involved a motorist travelling southbound and nine involved a motorist travelling northbound, resulting in no particular trend in terms of directionality. Approximately 70 percent of the collisions were attributed to unsafe speed or improper turning, which is consistent with the collisions that occurred at the intersection of Silverado Trail/Lodi Lane, and is likely due to the fact that the 1.1-mile roadway segment between Glass Mountain Road and Deer Park Road has five horizontal curves. Installation of a speed feedback sign near the Melka Estates Winery driveway would not just help to reduce collisions at the Lodi Lane intersection, but along the segment in general in the northbound direction. To address collisions in the southbound direction, it is recommended that the applicant work with the County to install a speed feedback sign facing southbound traffic near the 45-mph speed limit sign posted south of Glass Mountain Road.

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 Duckhorn Winery, a connected pedestrian network is lacking, though such facilities would not be appropriate in this setting.

Bicycle Facilities

The Highway Design Manual, Caltrans, 2017, classifies bikeways into four 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.
- Class IV Bikeway also known as a separated bikeway, a Class IV Bikeway is for the exclusive use of bicycles and includes a separation between the bikeway and the motor vehicle traffic lane. The separation may include, but is not limited to, grade separation, flexible posts, inflexible physical barriers, or on-street parking.

There are existing Class II bike lanes on Silverado Trail in the project study area and there are plans to provide a Class III bike route on SR 29 and a Class I regional trail (the Vine Trail) parallel to SR 29 that would ultimately connect Vallejo to Calistoga. A 12.5-mile segment of the Vine Trail has already been constructed between south Napa and Yountville; the Napa Valley Vine Trail Coalition (NVVTC) has stated that they are hoping to complete the rest of the trail network by 2022. Table 3 summarizes the existing and planned bicycle facilities in the project vicinity, as contained in the *Napa Countywide Bicycle Plan*, Napa Valley Transportation Authority (NVTA), 2019.



Table 3 – Existing and Planned Bicycle Facilities in the Project Vicinity								
Status Facility	Class	Length (miles)	Begin Point	End Point				
Existing								
Silverado Trail	П	2.9	Bale Ln	Deer Park Rd				
Planned								
Vine Trail	I	3.1	Lodi Ln	Deer Park Rd				
SR 29	III	6.2	Calistoga City Limit	Deer Park Rd				

Source: Napa Countywide Bicycle Plan, Napa Valley Transportation Authority, 2019

Transit Facilities

Transit services throughout Napa County are provided by Napa Valley Transit (VINE). There are no transit routes that stop within one-quarter mile, which is considered a comfortable walking distance, of the project site. The closest transit access is approximately 0.7 miles from the Duckhorn property on SR 29 at Lodi Lane. VINE Route 10 provides service between Napa Valley College and Calistoga seven days a week and stops on SR 29 to the north of Lodi Lane in both directions. Both stops are equipped with benches and the southbound stop has an overhead shelter. While these bus stops are not within acceptable walking distance of the project site, employees could reasonably bike between the project site and the bus stops.

All vehicles used by VINE are wheelchair accessible and conform to standards set forth by the Americans with Disabilities Act (ADA). However, dial-a-ride, also known as paratransit or door-to-door service, is available for those who are unable to independently use the transit system due to a physical or mental disability. VINE Go is VINE's paratransit service and is designed to serve the needs of individuals with disabilities in the cities of Calistoga, St. Helena, Napa, American Canyon, the Town of Yountville, and the unincorporated areas of Napa County. Reservations are required and, while can be made the same day of the trip, are recommended to be made in advance.



Intersection Level of Service Methodologies

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 the "Two-Way Stop-Controlled" methodology published in the *Highway Capacity Manual*, 6th Edition, Transportation Research Board, 2018. 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 "Two-Way Stop-Controlled" intersection capacity 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 ranges of delay associated with the various levels of service are indicated in Table 4.

Table 4 – Two-Way Stop-Controlled Intersection Level of Service Criteria

- LOS A Delay of 0 to 10 seconds. Gaps in traffic are readily available for drivers exiting the minor street.
- LOS 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.
- LOS 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.
- LOS 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.
- LOS E Delay of 35 to 50 seconds. Few acceptable gaps in traffic are available, and longer queues may form on the side street.
- LOS 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.

Reference: Highway Capacity Manual, 6th Edition, Transportation Research Board, 2018

Two-Lane Highway Segment Level of Service Methodology

The roadway segment Level of Service methodology found in Chapter 15, "Two-Lane Highways," of the *Highway Capacity Manual* is the basis of the automobile LOS analysis. The methodology considers traffic volumes, terrain, roadway cross-section, the proportion of heavy vehicles, and the availability of passing zones. The LOS criteria for two-lane highways differs depending on whether the highway is considered "Class I," "Class II," or "Class III." Class I highways are typically long-distance routes connecting major traffic generators or national highway networks where motorists expect to travel at high speeds. Motorists do not necessarily expect to travel at high speeds on Class II highways, which often function as scenic or recreational routes and typically serve shorter trips. Class III highways may be



portions of Class I or Class II highways that pass through towns and communities and have a mix of local traffic and through traffic.

The measure of effectiveness by which Level of Service is determined on Class I highways is average travel speed (ATS) and percent time spent following (PTSF), or the proportion of time that drivers on the highway are limited in their speed by a driver in front of them. Class II highways are also assessed in terms of PTSF. Class III highways are measured by percent of free-flow speed (PFFS), which represents the ability of vehicles to travel at or near the posted speed limit. SR 29, Silverado Trail, and Lodi Lane were all defined as a Class II highway for the purposes of this analysis. A summary of the PTSF breakpoints for Class II highways are shown in Table 5.

Table 5 – Automobile Level of Service Criteria					
LOS Class II Highways					
	PTSF (%)				
А	≤40				
В	>40-55				
С	>55-70				
D	>70-85				
Е	>85				

Notes: LOS = Level of Service; PTSF = Percent Time Spent Following Reference: *Highway Capacity Manual*, 6th Edition, Transportation Research Board, 2018

Traffic Operation Standards

Napa County

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

- **Policy CIR-31** The County seeks to provide a roadway system that maintains current roadway capacities in most locations and is efficient in providing local access.
- Policy CIR-38 The County seeks to maintain operations of roads and intersections in the unincorporated County area that minimize travel delays and promote safe access for all users. Operational analysis shall be conducted according to the latest version of the *Highway Capacity Manual* and as described in the current version of the County's Transportation Impact Study Guidelines. In general, the County seeks to maintain Level of Service (LOS) D on arterial roadways and at signalized intersections, as the service level that best aligns with the County's desire to balance its rural character with the needs of supporting economic vitality and growth.

In situations where the County determines that achieving LOS D would cause an unacceptable conflict with other goals and objectives, minimizing collisions and the adequacy of local access will be the County's priorities. Mitigating operational impacts should first focus on reducing the project's vehicular trips through modifying the project definition, applying TDM strategies, and/or applying new technologies that could reduce vehicular travel and associated delays; then secondarily should consider physical infrastructure changes. Proposed mitigations will be evaluated for their effect on



collisions and local access, and for their effectiveness in achieving the maximum potential reduction in the project's operational impacts (see the County's Transportation Impact Study Guidelines for a list of potential mitigation measures).

The following roadway segments are exceptions to the LOS D standard described above:

- State Route 29 in the unincorporated areas between Yountville and Calistoga: LOS F is acceptable.
- Silverado Trail between State Route 128 and Yountville Cross Road: LOS E is acceptable.
- State Route 12/121 between the Napa/Sonoma county line and Carneros Junction: LOS F is acceptable.
- American Canyon Road from I-80 to American Canyon City Limit: LOS E is acceptable.

To provide a more quantitative method of adhering to the above standards, the County refers to a memorandum titled *Guidelines for Application of Updated General Plan Circulation Policies on Significance Criteria Related to Vehicle Level of Service* (Fehr & Peers, 2020). The document establishes thresholds for road segments and different intersection control types. The memorandum states a project would cause an adverse effect requiring mitigation if, for Existing Conditions:

- 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
- 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. The following equation should be applied:
 - 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 increases the delay be **five seconds** or more; the peak hour traffic signal warrant criteria should also be evaluated and presented for informational purposes.
 - <u>All-Way Stop-Controlled Intersections</u> The increase in delay should be calculated based on the overall average delay for the intersection.



 <u>Side-Street Stop-Controlled Intersections</u> – The increase in delay should be calculated based on the delay for the worst-case approach(es). Each stop-controlled approach that operates at LOS E or F should be analyzed individually.

A project would cause an adverse effect requiring mitigation if, for Future (Cumulative) Conditions, the Project's volume is equal to, or greater than **one percent** of the difference between Future and Existing volumes for an arterial, signalized intersection, or all-way stop-controlled intersection and **10 percent** for the impacted approach at two-way stop-controlled intersections.

- <u>Cumulative Conditions</u> 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)

Significance threshold for failing intersections: General Plan policy accepts LOS E and F in certain instances. If an unsignalized intersection is operating acceptably (LOS A through LOS D), and the project would cause the intersection to fall to LOS E or LOS F, the applicant must mitigate the impact to restore to LOS D at minimum, or the project is considered to adversely affect operation of the intersection. If an intersection is already LOS E or LOS F, and the project would increase delay by five or more seconds, the applicant must mitigate the impact to lower the increase in delay, or else the project would be considered to adversely affect the intersection. The same standards apply to the analysis of minor approaches to unsignalized intersections. As CEQA Guidelines have shifted away from LOS and toward VMT as the determining factor in identifying significant transportation impacts, adverse effects to intersections may still be the basis for conditioning transportation improvements to improve or maintain existing LOS or denying a project for the project's potentially negative effects on public safety.

Existing Conditions

The Existing Conditions scenario provides an evaluation of current operation based on existing traffic volumes during the afternoon p.m. peak hour on both Fridays and Saturdays. Volume data collected at the winery driveway during harvest in October 2019 indicates that the site generates the highest percentage of trips in the afternoon period on both Fridays and Saturdays so intersection turning movement volumes were collected at both study intersections between 2:00 and 5:00 p.m. on Fridays and between 2:00 and 4:00 p.m. on Saturdays. All count data was collected during typical harvest operations and clear weather conditions. Consistent with the TIS Guidelines, intersection turning movement counts were collected on two separate Fridays and Saturdays and the higher of the two counts was retained for the analysis. Peak hour segment volumes for each of the six study roadway segments were derived from the intersection counts.

Peak hour factors (PHFs) were calculated based on the counts obtained and used in the level of service calculations. Additionally, the percentage of heavy vehicles at each intersection was calculated based on previous data collected during harvest in September 2017. For the purpose of this study, heavy vehicles were considered to be trucks hauling grapes or those with five or more axles. The data indicates that heavy vehicles represent four percent of all vehicles through the intersection of SR 29/Lodi Lane during the Friday p.m. peak hour and two percent during the Saturday p.m. peak hour. At Silverado Trail/Lodi Lane, heavy vehicles represent two and three percent of vehicles during the Friday p.m. and Saturday p.m.



peak hours, respectively. The PHFs are included in the traffic counts in Appendix B along with the heavy vehicle volume data.

Intersection Levels of Service

The stop-controlled minor street approaches are operating acceptably under Existing Conditions at both study intersections during both peak periods evaluated, except for SR 29/Lodi Lane during the Friday p.m. peak hour. The Existing traffic volumes are shown in Figure 2. A summary of the intersection level of service calculations is contained in Table 6, and copies of the intersection Level of Service calculations for all evaluated scenarios are provided in Appendix C.

Tal	Table 6 – Existing Peak Hour Intersection Levels of Service						
Stı	idy Intersection	Friday P	M Peak	Saturday	MD Peak		
	Approach	Delay	LOS	Delay	LOS		
1.	SR 29/Lodi Ln	4.4	А	1.5	А		
	Westbound (Lodi Ln) Approach	51.1	F	34.7	D		
2.	Silverado Trail/Lodi Ln	2.0	А	1.2	А		
	Eastbound (Lodi Ln) Approach	12.4	В	11.4	В		

Notes: Delay is measured in average seconds per vehicle; LOS = Level of Service; Results for minor approaches to two-way stop-controlled intersections are indicated in *italics;* **Bold** text denotes unacceptable operation

The County's General Plan does not specify an LOS standard for unsignalized intersections, which are to be evaluated on case-by-case basis, so for the purposes of this analysis and to be consistent with the recommendations in the County's TIS Guidelines, LOS D was considered the target threshold for stop-controlled approaches at unsignalized intersections. The TIS Guidelines also recommend that peak hour signal warrants be evaluated for unsignalized intersections that operate at LOS E or F; however, based on previous discussions with County and Caltrans staff, it is understood that installation of a traffic signal would not be appropriate at either of the study intersections so warrants were not evaluated.

Roadway Segment Levels of Service

Under Existing Conditions, the study segments all operate at LOS C or better during both peak hours, which meets the County's standard of LOS D. The Existing segment volumes are shown in Figure 2 with the intersection volumes. A summary of the roadway segment level of service calculations is shown in Table 7, and copies of the roadway segment Level of Service calculations for all evaluated scenarios are provided in Appendix D.





Traffic Impact Study for the Duckhorn Vineyards Use Permit Modification **Figure 2 – Existing Traffic Volumes**



Tal	Table 7 – Existing Peak Hour Roadway Segment Levels of Service					
Stı	ıdy Segment	Friday PM Peak		Saturday PM Peak		
	Direction	PTSF	LOS	PTSF	LOS	
1.	SR 29 - North of Lodi Ln					
	Northbound	65.1	С	64.9	С	
	Southbound	63.0	С	64.4	С	
2.	SR 29 - South of Lodi Ln					
	Northbound	65.3	С	65.3	С	
	Southbound	65.6	С	64.8	С	
3.	Lodi Ln - West of Project Dwy					
	Eastbound	17.6	А	15.1	А	
	Westbound	27.0	А	15.7	А	
4.	Lodi Ln - East of Project Dwy					
	Eastbound	20.4	А	14.5	А	
	Westbound	25.2	А	17.5	А	
5.	Silverado Trail - North of Lodi Ln					
	Northbound	46.6	В	46.3	В	
	Southbound	45.1	В	43.9	В	
6.	Silverado Trail - South of Lodi Ln					
	Northbound	48.8	В	47.5	В	
	Southbound	44.8	В	43.9	В	

Notes: PTSF = Percent Time Spent Following; LOS = Level of Service

Near-Term Conditions

Trips associated with the pending Inn at the Abbey project to be located on the Freemark Abbey Winery property at the west end of Lodi Lane were added to Existing intersection and segment volumes in order to develop volumes that would be representative of conditions once the lodging project is open. The Inn at the Abbey project consists of 79 hotel rooms and is expected to generate an average of 645 new trips per day, including 33 weekday p.m. peak hour trips and 57 trips during the weekend peak hour, as documented in the *Traffic Impact Study for the Inn at the Abbey*, W-Trans, 2019. The "Project" volumes from this prior analysis were used to evaluate the Near-Term Conditions scenario, which is also known as Baseline or Existing plus Approved Conditions.

Intersection Levels of Service

Under Near-Term Conditions, the stop-controlled approach at SR 29/Lodi Lane would continue to operate at LOS F during the Friday p.m. peak hour and would deteriorate from LOS D to LOS E during the Saturday p.m. peak hour. The intersection of Silverado Trail/Lodi Lane would operate acceptably during both peak



hours. The Near-Term intersection volumes are shown in Figure 3 and a summary of the intersection Level of Service calculations is contained in Table 8.

Ta	Table 8 – Near-Term Peak Hour Intersection Levels of Service						
Study Intersection		Friday PM Peak		Saturday PM Peak			
	Approach	Delay	LOS	Delay	LOS		
1.	SR 29/Lodi Ln	5.1	А	1.8	А		
	Westbound (Lodi Ln) Approach	56.6	F	36.5	Ε		
2.	Silverado Trail/Lodi Ln	2.0	А	1.3	А		
	Eastbound (Lodi Ln) Approach	12.4	В	11.4	В		

Notes: Delay is measured in average seconds per vehicle; LOS = Level of Service; Results for minor approaches to two-way stop-controlled intersections are indicated in *italics;* **Bold** text denotes unacceptable operation

Roadway Segment Levels of Service

Under Near-Term Conditions, all six study roadway segments are expected to operate at LOS C or better during both peak hours. Near-Term segment volumes are shown in Figure 3 and a summary of the roadway segment Level of Service calculations is shown in Table 9.





Traffic Impact Study for the Duckhorn Vineyards Use Permit Modification **Figure 3 – Near–Term Traffic Volumes**



Tal	Table 9 – Near-Term Peak Hour Roadway Segment Levels of Service					
Stı	ıdy Segment	Friday P	M Peak	Saturday	PM Peak	
	Direction	PTSF	LOS	PTSF	LOS	
1.	SR 29 - North of Lodi Ln					
	Northbound	65.4	С	64.6	С	
	Southbound	63.3	С	64.8	С	
2.	SR 29 - South of Lodi Ln					
	Northbound	65.5	С	65.1	С	
	Southbound	65.9	С	65.3	С	
3.	Lodi Ln - West of Project Dwy					
	Eastbound	18.7	А	18.2	А	
	Westbound	28.2	А	17.9	А	
4.	Lodi Ln - East of Project Dwy					
	Eastbound	21.1	А	15.6	А	
	Westbound	25.6	А	18.8	А	
5.	Silverado Trail - North of Lodi Ln					
	Northbound	46.6	В	46.4	В	
	Southbound	45.2	В	44.1	В	
6.	Silverado Trail - South of Lodi Ln					
	Northbound	48.9	В	47.9	В	
	Southbound	45.0	В	44.2	В	

Notes: PTSF = Percent Time Spent Following; LOS = Level of Service

Cumulative (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 hour were used to calculate growth factors for SR 29 and Silverado Trail; it is noted that Lodi Lane is not included in the model so the growth on this roadway was assumed to increase at one-half percent annually given that there are limited opportunities for growth on the segment.

The growth factors projected by the model were adjusted to account for the four years of growth that had already occurred between the base year (2015) and existing (2019) count data, resulting in a growth factor of 1.46 for SR 29 and 1.37 for Silverado Trail. The existing counts were then multiplied by the adjusted growth factors to project likely Future Friday p.m. peak hour turning movement volumes at the study intersections. The same growth factors used for the Friday p.m. peak hour were used for the Saturday p.m. peak hour as the model does not contain information for weekend days. Roadway segment volumes for each segment were then derived from the projected Future intersection turning movement volumes.



Intersection Levels of Service

Under Cumulative Conditions, and with no changes to the intersection's configuration or controls, the stop-controlled approach at SR 29/Lodi Lane would be expected to operate at LOS F during both peak hours with calculated delays well above what is considered reliable within the bounds of the HCM methodology. However, the intersection of Silverado Trail/Lodi Lane would operate acceptably during both peak hours. The Cumulative intersection volumes are shown in Figure 4 and a summary of the intersection level of service calculations is contained in Table 10.

Ta	Table 10 – Cumulative Peak Hour Intersection Levels of Service						
Stı	udy Intersection	Friday PM Peak			Saturday PM Peak		
	Approach	Delay	LOS	Delay	LOS		
1.	SR 29/Lodi Ln	23.6	С	3.7	А		
	Westbound (Lodi Ln) Approach	361.8	F	126.9	F		
2.	Silverado Trail/Lodi Ln	1.9	А	1.0	А		
	Eastbound (Lodi Ln) Approach	14.5	В	12.5	В		

Notes: Delay is measured in average seconds per vehicle; LOS = Level of Service; Results for minor approaches to two-way stop-controlled intersections are indicated in *italics;* **Bold** text denotes unacceptable operation

Roadway Segment Levels of Service

Under Cumulative Conditions, all six study roadway segments are expected to operate at LOS D or better during both peak hours. Cumulative segment volumes are shown in Figure 4 and a summary of the roadway segment level of service calculations is shown in Table 11.





Traffic Impact Study for the Duckhorn Vineyards Use Permit Modification **Figure 4 – Cumulative Traffic Volumes**



Tal	ole 11 – Cumulative Peak Hour Roadway Segment Le	evels of Serv	ice		
Stı	ıdy Segment	Friday P	M Peak	Saturday	PM Peak
	Direction	PTSF	LOS	PTSF	LOS
1.	SR 29 - North of Lodi Ln				
	Northbound	73.9	D	74.0	D
	Southbound	72.0	D	73.2	D
2.	SR 29 - South of Lodi Ln				
	Northbound	74.0	D	74.2	D
	Southbound	73.9	D	73.6	D
3.	Lodi Ln - West of Project Dwy				
	Eastbound	18.2	А	15.7	А
	Westbound	28.0	А	16.2	А
4.	Lodi Ln - East of Project Dwy				
	Eastbound	21.2	А	14.6	А
	Westbound	26.2	А	17.5	А
5.	Silverado Trail - North of Lodi Ln				
	Northbound	53.0	В	51.7	В
	Southbound	51.2	В	48.8	В
6.	Silverado Trail - South of Lodi Ln				
	Northbound	55.0	С	52.7	В
	Southbound	51.2	В	48.8	В

Notes: PTSF = Percent Time Spent Following; LOS = Level of Service

Project Description

The proposed project includes construction of a new wine production building on the recently acquired adjacent parcel (to be known as the "West Winery"), expansion of the existing Estate House, and development of additional outdoor hospitality areas. As part of the project, the current Use Permit would be updated to allow for an increase in daily visitation as well as production. No changes are proposed to staffing levels at this time. One of the main goals for the proposed modification is to allow for the efficient processing of grapes so that fruit that would otherwise be trucked to a Duckhorn Wine Company (DWC) facility in Hopland, CA (approximately 60 miles away) can be processed on-site. The following activities are proposed that would affect trip generation, and would be the same for both non-harvest and harvest seasons:

- An increase in production from 160,000 to 300,000 gallons annually;
- An increase in maximum daily visitation during both weekdays and weekend days from 82 to 219;
- A decrease in the largest marketing event from 600 to 400 guests.



Access to the Estate House and all hospitality areas would continue to occur via the existing driveway on Lodi Lane near Silverado Trail. The new West Winery would be accessed from an existing driveway on Lodi Lane approximate halfway between SR 29 and Silverado Trail; no visitation would occur at the West Winery as it would serve production activities only. The project site plan is shown in Figure 5.

Trip Generation

The County of Napa's Winery Traffic Information/Trip Generation Sheet, updated in August 2019, was used to determine the anticipated trip generation for the existing and proposed conditions. The form estimates the number of daily trips for Fridays and Saturdays during typical operation and harvest season based on the number of full- and part-time employees, maximum daily visitors, and production.

The County's methodology assigns 38 percent of Friday trips to the p.m. peak hour and 57 percent of Saturday trips to the p.m. peak hour. However, recent updates to the County's policy have provided alternatives to using these standard temporal distributions, which is Option A per the policy. The County now allows the use of standard ITE rates (Option B) or site-specific peak-hour data (Option C) to estimate the number of peak hour trips expected to be generated by a proposed project as a percent of the daily trips estimated using the County's standard form. Because the winery is already in operation, it was determined that actual, site-specific data would provide the most accurate representation of the project's potential peak hour trips, so Option C was selected.

Based on actual site data collected during harvest in October 2019, approximately 14 and 15 percent of the total daily trips occur during the peak hour of the generator on Fridays and Saturdays, respectively, which generally occurred in the afternoon on both days. The percentages for the peak hour of the generator were used to estimate the number of trips generated during both the Friday and Saturday afternoon p.m. peak hours as a function of total daily trips calculated using the formulas on the County's form. The inbound versus outbound ratios for both peak hours were also reviewed based on the actual driveway counts, and it was determined that the site experiences a 54/46 percent split between inbound and outbound trips during the Friday p.m. peak hour and a 53/47 percent split during the Saturday p.m. peak hour. Copies of the Napa County Winery Traffic Information/Trip Generation Sheets are enclosed in Appendix E, along with supporting calculations for the applied peak hour percentages and inbound/outbound ratios.

Based on application of these assumptions, operation with the proposed modification would be expected to generate a maximum of 356 trips on a Friday during harvest, with 50 trips occurring during the peak hour and 344 trips on a Saturday with 52 trips during the peak hour. As shown in Table 12, this would result in a net increase of 120 trips per Friday, including 17 new trips during the p.m. peak hour, and a net increase of 112 new trips per Saturday also with 17 new trips during the peak hour.

Table 12 – Trip Generation Summary During Harvest										
Scenario	D	Daily Friday PM Peak		Saturday PM Peak						
	Friday	Saturday	Trips	In	Out	Trips	In	Out		
Existing	236	232	33	17	16	35	19	16		
Proposed	356	344	50	27	23	52	28	24		
Net Increase	120	112	17	10	7	17	9	8		

Note: Daily trips taken from Napa County Winery Traffic Information/Trip Generation Sheet; Peak hour trips determined based on site-specific trip generation data.





Traffic Impact Study for the Duckhorn Vineyards Use Permit Modification **Figure 5** – **Site Plan**



While the LOS analysis was based on the anticipated trip generation during harvest, it should be noted that during typical non-harvest conditions the project would be expected to result in 108 new daily trips on a Friday and 101 new daily trips on a Saturday.

Trip Distribution

The pattern used to allocate the 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 tasting room visitors and current operations. As part of the proposed changes to the Use Permit, employees and visitors will be instructed via signage at the driveway exits to use SR 29 to travel north and Silverado Trail to travel south in an effort to avoid making time-consuming left-turn movements from Lodi Lane onto either SR 29 or Silverado Trail during peak hours, so this operational parameter was incorporated into the distribution assumptions. The applied distribution assumptions are shown in Table 13.

Table 13 – Trip Distribution Assumptions									
Route	Inbound	Outbound							
SR 29 (To/From the North)	25%	35%							
SR 29 (From the South)	25%	0%							
Silverado Trail (From the North)	10%	0%							
Silverado Trail (To/From the South)	40%	65%							
TOTAL	100%	100%							

Intersection Operation

Existing plus Project Conditions

Upon the addition of project trips to existing volumes, both study intersections are expected to continue operating at the same service levels as under Existing Conditions. Silverado Trail/Lodi Lane would continue to operate acceptably, and SR 29/Lodi Lane would continue to operate unacceptably as LOS F on the stop-controlled approach during the Friday p.m. peak hour. These results are summarized in Table 14 and intersection project traffic volumes are shown in Figure 6.

Tal	able 14 – Existing and Existing plus Project Peak Hour Intersection Levels of Service									
Stu	Study Intersection		sting (Conditio	ns	Exi	Existing plus Project			
	Approach	Friday PM Saturday PM				Friday PM Saturday PN			ay PM	
		Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	
1.	SR 29/Lodi Ln	4.4	А	1.5	А	4.6	А	1.5	А	
	Westbound (Lodi Ln) Approach	51.1	F	34.7	D	52.1	F	33.9	D	
2.	Silverado Trail/Lodi Ln	2.0	А	1.2	А	2.0	А	1.3	А	
	Eastbound (Lodi Ln) Approach	12.4	В	11.4	В	12.3	В	11.3	В	

Notes: Delay is measured in average seconds per vehicle; LOS = Level of Service; Results for minor approaches to two-way stop-controlled intersections are indicated in *italics;* **Bold** text denotes unacceptable operation





Traffic Impact Study for the Duckhorn Vineyards Use Permit Modification **Figure 6 – Project Traffic Volumes**



It should be noted that with the addition of project traffic, calculated delays on the stop-controlled approaches decreases slightly during some scenarios compared to conditions without the project. While this is counter-intuitive, this condition occurs because, based on the applicant's proposal to use SR 29 and Silverado Trial as a one-way couplet for outbound trips, the project would add only right-turn movements to the stop-controlled approaches at each intersection, which movements have delays that are lower than the approach average, resulting in a slight reduction in the overall average delay for that approach. The conclusion could incorrectly be drawn that operation would improve with the addition of project trips based on this data alone; however, it is more appropriate to conclude that the project trips are expected to make use of excess capacity in the right-turn movements, so drivers will experience little, if any, change in conditions as a result of the project.

Finding – Although the stop-controlled approach at SR 29/Lodi Lane would continue to operate at LOS F during the Friday p.m. peak hour with the addition of project trips, the project's effect would be considered acceptable under County criterion since the increase in delay on the approach would be less than five seconds.

Near-Term plus Project Conditions

Upon the addition of project trips to Near-Term volumes, both study intersections are expected to continue operating at the same service levels as without the project. Silverado Trail/Lodi Lane would continue to operate acceptably, and SR 29/Lodi Lane would continue to operate unacceptably as LOS F on the stop-controlled approach during the Friday p.m. peak hour and LOS E during the Saturday p.m. peak hour. These results are summarized in Table 15.

Tal	Table 15 – Near-Term and Near-Term plus Project Peak Hour Intersection Levels of Service									
Study Intersection Approach		Nea	ar-Term	Conditio	ons	Near-Term plus Project				
		Friday PM Saturday PM		Friday PM		Saturday PM				
		Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	
1.	SR 29/Lodi Ln	5.1	А	1.8	А	5.3	А	1.9	А	
	Westbound (Lodi Ln) Approach	56.6	F	36.5	Ε	57.9	F	35.9	Ε	
2.	Silverado Trail/Lodi Ln	2.0	А	1.3	А	2.1	А	1.4	А	
	Eastbound (Lodi Ln) Approach	12.4	В	11.4	В	12.4	В	11.4	В	

Notes: Delay is measured in average seconds per vehicle; LOS = Level of Service; Results for minor approaches to two-way stop-controlled intersections are indicated in *italics;* **Bold** text denotes unacceptable operation

Finding – Consistent with Existing plus Project Conditions, although the stop-controlled approach at SR 29/Lodi Lane would continue to operate at LOS E and F with the addition of project trips, the project's effect would be considered acceptable under County criterion since the increase in delay on the approach would be less than five seconds

Cumulative (Future) plus Project Conditions

Upon the addition of project trips to the projected Cumulative volumes, both study intersections are expected to continue operating at the same service levels as without the project. Silverado Trail/Lodi Lane would continue to operate acceptably, and SR 29/Lodi Lane would continue to operate unacceptably



as LOS F on the stop-controlled approach during both peak hours. These results are summarized in Table 16.

Ia	able 16 – Cumulative and Cumulative plus Project Peak Hour Intersection Levels of Service									
Stı	Study Intersection		nulative	e Conditi	ons	Cumulative plus Project				
Approach		Frida	Friday PM Saturday PM		Friday PM		Saturday PM			
		Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	
1.	SR 29/Lodi Ln	23.6	С	3.7	А	24.6	С	3.8	А	
	Westbound (Lodi Ln) Approach	361.8	F	126.9	F	373.2	F	125.7	F	
	Restripe to Provide Right-Turn Lane	-	-	-	-	255.7	F	114.9	F	
2.	Silverado Trail/Lodi Ln	1.9	А	1.0	А	1.9	А	1.1	А	
	Eastbound (Lodi Ln) Approach	14.5	В	12.5	В	14.4	В	12.4	В	

Delay is measured in average seconds per vehicle; LOS = Level of Service; Results for minor approaches to two-way Notes: stop-controlled intersections are indicated in italics; Bold text denotes unacceptable operation; Shaded cells represent recommended improvements

Under the County's criterion, a project's effect is considered adverse in the Cumulative Conditions scenario if the project's volume is equal to, or greater than, ten percent of the difference between Future and Existing volumes on the impacted approach at two-way stop-controlled intersections calculated using the following equation:

Project Contribution % = Project Trips ÷ (Cumulative Volumes – Existing Volumes)

Based on this criterion, the project's effect would be considered adverse during both peak hours even though the project would only result in two new trips during the Friday peak hour and three new trips during the Saturday peak hour, as shown below.

- Friday PM Project Contribution $\% = 2 \div (135 122) = 15\%$
- Saturday PM Project Contribution $\% = 3 \div (57 52) = 60\%$ •

The Traffic Impact Study for the Inn at the Abbey also identified an adverse effect at SR 29/Lodi Lane under Cumulative Conditions and recommended restriping the stop-controlled approach to include a separate right-turn lane. With this improvement, the stop-controlled delays would be reduced to less than the delays without the project, as shown in the table above. It is recommended that Duckhorn work with the applicant for the Inn at the Abbey to share the restriping improvements. Based on the number of trips that each project would be expected to add to the impacted approach during the critical Friday p.m. peak hour, a proportional share of the improvements would be 18 percent for Duckhorn and 82 percent for the Inn at the Abbey.

Finding – The project would result in an adverse effect at SR 29/Lodi Lane since the intersection would operate at LOS F on the minor street approach and project trips represent more than 10 percent of the anticipated growth during each peak hour.



Recommendation – It is recommended that the westbound approach at SR 29/Lodi Lane be restriped to include a dedicated right-turn lane. The cost for this improvement could be shared with the Inn at the Abbey since the improvement was also recommended for that project.

Roadway Segment Operation

Existing plus Project Conditions

Under Existing plus Project Conditions, the study roadway segments are expected to continue operating acceptably at the same levels of service as without project traffic in both directions during both peak hours. These results are summarized in Table 17 and project segment volumes are shown in Figure 6.

Tal	able 17 – Existing and Existing plus Project Peak Hour Roadway Segment Levels of Service										
Stu	ıdy Segment	E>	cisting (Condition	าร	Existing plus Project					
	Direction	Frida	y PM	Saturd	ay PM	Frida	y PM	Saturd	ay PM		
		PTSF	LOS	PTSF	LOS	PTSF	LOS	PTSF	LOS		
1.	SR 29 - North of Lodi Ln										
	Northbound	65.1	С	64.9	С	65.2	С	65.0	С		
	Southbound	63.0	С	64.4	С	63.3	С	64.4	С		
2.	SR 29 - South of Lodi Ln										
	Northbound	65.3	С	65.3	С	65.4	С	65.4	С		
	Southbound	65.6	С	64.8	С	65.6	С	64.8	С		
3.	Lodi Ln - West of Project Dwy										
	Eastbound	17.6	А	15.1	А	18.7	А	15.5	А		
	Westbound	27.0	А	15.7	А	27.2	А	16.3	А		
4.	Lodi Ln - East of Project Dwy										
	Eastbound	20.4	А	14.5	А	21.3	А	15.6	А		
	Westbound	25.2	А	17.5	А	25.8	А	18.1	А		
5.	Silverado Trail - North of Lodi Ln										
	Northbound	46.6	В	46.3	В	46.6	В	46.3	В		
	Southbound	45.1	В	43.9	В	45.2	В	44.0	В		
6.	Silverado Trail - South of Lodi Ln										
	Northbound	48.8	В	47.5	В	49.0	В	47.8	В		
	Southbound	44.8	В	43.9	В	45.2	В	44.2	В		

Notes: PTSF = Percent Time Spent Following; LOS = Level of Service

Finding – The study roadways are expected to continue operating acceptably upon the addition of project-generated traffic to Existing volumes and the project's effect would be considered acceptable.



Near-Term plus Project Conditions

Under Near-Term plus Project Conditions, the study roadway segments are expected to continue operating acceptably at the same levels of service as without project traffic in both directions during both peak hours. These results are summarized in Table 18.

Tal	ole 18 – Near-Term and Near-Term pl	us Proje	ct Peak	Hour Ro	adway	Segmen	t Levels	of Servi	ce
Stu	ıdy Segment	Nea	ar-Term	Conditi	ons	Near-Term plus Project			
	Direction	Frida	y PM	Saturd	ay PM	Frida	y PM	Saturd	ay PM
		PTSF	LOS	PTSF	LOS	PTSF	LOS	PTSF	LOS
1.	SR 29 - North of Lodi Ln								
	Northbound	65.4	С	64.6	С	65.5	С	64.7	С
	Southbound	63.3	С	64.8	С	63.4	С	64.9	С
2.	SR 29 - South of Lodi Ln								
	Northbound	65.5	С	65.1	С	65.6	С	65.2	С
	Southbound	65.9	С	65.3	С	65.9	С	65.3	С
3.	Lodi Ln - West of Project Dwy								
	Eastbound	18.7	А	18.2	А	19.8	А	18.5	А
	Westbound	28.2	А	17.9	А	28.4	А	18.5	А
4.	Lodi Ln - East of Project Dwy								
	Eastbound	21.1	А	15.6	А	21.9	А	16.6	А
	Westbound	25.6	А	18.8	А	26.2	А	19.4	А
5.	Silverado Trail - North of Lodi Ln								
	Northbound	46.6	В	46.4	В	46.6	В	46.4	В
	Southbound	45.2	В	44.1	В	45.3	В	44.2	В
6.	Silverado Trail - South of Lodi Ln								
	Northbound	48.9	В	47.9	В	49.1	В	48.2	В
	Southbound	45.0	В	44.2	В	45.4	В	44.6	В

Notes: PTSF = Percent Time Spent Following; LOS = Level of Service

Finding – The study roadways are expected to continue operating acceptably upon the addition of project-generated traffic to Near-Term volumes and the project's effect would be considered acceptable.

Cumulative (Future) plus Project Conditions

Under Cumulative plus Project Conditions, the study roadway segments are expected to continue operating acceptably at LOS D or better in both directions during both peak hours. These results are summarized in Table 19.



Stı	Study Segment		nulative	Conditi	ons	Cumulative plus Project			
	Direction	Frida	y PM	Saturd	ay PM	Frida	y PM	Saturd	ay PM
		PTSF	LOS	PTSF	LOS	PTSF	LOS	PTSF	LOS
1.	SR 29 - North of Lodi Ln								
	Northbound	73.9	D	74.0	D	74.0	D	74.0	D
	Southbound	72.0	D	73.2	D	72.1	D	73.3	D
2.	SR 29 - South of Lodi Ln								
	Northbound	74.0	D	74.2	D	74.1	D	74.3	D
	Southbound	73.9	D	73.6	D	73.9	D	73.6	D
3.	Lodi Ln - West of Project Dwy								
	Eastbound	18.2	А	15.7	А	19.2	А	16.1	А
	Westbound	28.0	А	16.2	А	28.2	А	16.8	А
4.	Lodi Ln - East of Project Dwy								
	Eastbound	21.2	А	14.6	А	22.0	А	15.6	А
	Westbound	26.2	А	17.5	А	26.7	Α	18.0	А
5.	Silverado Trail - North of Lodi Ln								
	Northbound	53.0	В	51.7	В	53.0	В	51.7	В
	Southbound	51.2	В	48.8	В	51.2	В	48.9	В
6.	Silverado Trail - South of Lodi Ln								
	Northbound	55.0	С	52.7	В	55.2	С	52.9	В
	Southbound	51.2	В	48.8	В	51.2	В	49.1	В

Table 19 – Cumulative and Cumulative plus Project Peak Hour Roadway Segment Levels of Service

Notes: PTSF = Percent Time Spent Following; LOS = Level of Service

Finding – The study roadway segments are expected to continue operating at LOS D or better upon the addition of project-generated traffic to Cumulative volumes, and the project's effect would be considered acceptable.


Background and Threshold of Significance

Senate Bill (SB) 743 established a change in the metric to be applied for determining transportation impacts associated with development projects. Rather than the delay-based criteria associated with a Level of Service (LOS) analysis, the increase in Vehicle Miles Traveled (VMT) as a result of a project is now the basis for determining California Environmental Quality Act (CEQA) impacts with respect to transportation and traffic. As of the date of this analysis, the County of Napa has not yet established thresholds of significance related to VMT. As a result, the project-related VMT impacts were assessed based on guidance provided by the California Governor's Office of Planning and Research (OPR) in the publication *Transportation Impacts (SB 743) CEQA Guidelines Update and Technical Advisory*, 2018.

Project Impact

The OPR Technical Advisory identifies several criteria that may be used to identify certain types of projects that are unlikely to have a significant VMT impact and can be "screened" from further analysis. One of these screening criteria pertains to small projects, which OPR defines as generating fewer than 110 new vehicle trips per day on average. OPR specifies that VMT should be based on a typical weekday and should take into consideration seasonal fluctuations. The proposed project is anticipated to result in 120 new daily vehicle trips on harvest Friday and 108 new daily vehicle trips on a non-harvest Friday, though based on count data collected at the existing driveway the winery generates approximately 36 percent fewer trips on the other weekday average, and accounting for a two-month harvest season, the project would be expected to result in approximately 79 new daily trips per weekday over the course of the year. Since this is below the small project threshold of 110 trips, it is reasonable to conclude that the project can be presumed to have a less-than-significant transportation impact on VMT.

It should also be noted that one of the main goals of the proposed production expansion is to allow for more Napa Valley fruit to be processed on-site that would otherwise be trucked to a Duckhorn Wine Company (DWC) facility in Hopland approximately 60 miles away. So, while the project would increase the number of truck trips in the immediate vicinity, the project has the potential to decrease Duckhorn's total VMT associated with grape hauling in Napa, Sonoma, and Mendocino counties.

Finding – Based on OPR guidance, the project would be expected to have a less-than-significant transportation impact on VMT.



Alternative Modes

Pedestrian Facilities

Consistent with expectations for a rural area, there are no existing pedestrian facilities in the project vicinity and pedestrian trips to and from the site are not expected so this condition is acceptable.

Finding – The lack of pedestrian facilities serving the project site is acceptable.

Bicycle Facilities

While rural wineries are not typically a high generator of bicycle trips, the existing Class II bike lanes on Silverado Trail along with the shared use of Lodi Lane with motorists and planned facilities consisting of the Vine Trail and a Class III bike route on SR 29 would provide adequate access for bicyclists.

Finding – Access for bicyclists would be adequate considering the limited demand.

Bicycle Storage

The County does not have specific bicycle parking requirements for wineries; however, the project should provide bicycle parking consistent with the requirements outlined in Chapter 18.110.040 of the Napa County Code of Ordinances which states that ten bicycle parking spaces should be provided for all nonresidential uses where ten or more automobile parking spaces are required. With a proposed supply of 76 permanent vehicle parking spaces, the project would need to provide ten bicycle spaces on-site.

Recommendation – The applicant should ensure parking for a minimum of ten bicycles is provided somewhere on-site, preferably near the tasting room.

Transit

The nearest transit stops approximately 0.7 miles from the project site on SR 29 are adequate for the limited anticipated demand. While 0.7 miles is not considered a comfortable walking distance for most, this distance is well within the range of comfort for a bicyclist so transit could be used and accompanied with a bicycle, if needed.

Finding – The lack of convenient transit access does not result in an impact given the limited potential demand.



Site Access

Access to the Estate House and all hospitality areas would continue to occur via the existing east driveway on Lodi Lane approximately 200 feet west of Silverado Trail. The new West Winery would be accessed from an existing driveway on Lodi Lane approximate halfway between SR 29 and Silverado Trail and would be used for winery production activities only; no visitation would occur at the West Winery.

Sight Distance

Sight distances along Lodi Lane at the existing 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.

For the posted 40-mph speed limit on Lodi Lane, the recommended stopping sight distance is 300 feet. Based on a review of field conditions, sight distance at each driveway extends more than 300 feet in both directions, which is adequate for the posted speed limit. Adequate sight distance is also available for following drivers to see and react to a vehicle stopped to make a turn into either driveway, though given the low traffic volume on Lodi Lane it is unlikely that there would be a vehicle stopped in the travel lane while waiting to turn into the driveway.

Finding – Sight distances on Lodi Lane are adequate to meet the applied criteria for both entering and exiting turning movements.

Turn Lane Warrants

The need for a left-turn lane on Lodi Lane at the project driveways was evaluated using the County of Napa's published guidance considering the average daily traffic (ADT) volume projected to use the driveway as a function of roadway ADT. 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.

Count data collected during harvest in October 2019 indicates that the east driveway has an ADT of 300 vehicles and Lodi Lane has an ADT of 1,357 vehicles. Based on these volumes, a left-turn lane would be warranted under Existing Conditions without even considering project trips according to the County's methodology. Of the 79 new daily trips generated on a typical weekday, approximately two-thirds are expected to occur via the east driveway and one-third at the west driveway. Upon the addition of project trips, a left-turn lane would continue to be warranted at the east driveway, though a left-turn lane would not be warranted at the west driveway. Copies of the left-turn lane warrant graphs are provided in Appendix F.

Since a left-turn lane would be warranted at the east driveway, the design requirements and feasibility of constructing a turn lane were explored. The Napa County left-turn lane design standard defaults to the Caltrans *Highway Design Manual* (HDM) for speeds other than 55 miles per hour (mph). Section 405.2



"Left-turn Channelization" of the HDM sets the design requirements for left-turn lanes, including the required length of the bay taper and deceleration lane so that turning vehicles have sufficient space to decelerate as they approach the turn without impacting through traffic. There are two separate sets of design criteria specified in the HDM, one for rural high speed, high volume facilities and another for urban facilities with constraints and low traffic volumes and speeds. Although Lodi Lane is not in an urban setting, there are constraints such as the bridge over the Napa River approximately 410 feet west of the driveway and the intersection with Silverado Trail approximately 200 feet to the east. Further, the volumes and speeds observed on Lodi Lane indicate that the less-restrictive criteria for constrained settings are more appropriate.

For a design speed of 40 mph, a total of 578 feet of roadway widening (365 feet for deceleration and storage and 213 feet for transition) would be needed to accommodate a left-turn lane if all of the widening were to occur on one side of the roadway. If the widening were to be split evenly on both sides of the facility, then 472 feet would be required, including 365 feet for deceleration and storage and 107 feet for transition. Neither of these options could be accomplished within the space available between the Napa River bridge and the driveway; however the HDM states that partial deceleration is permitted in the through lane and the design speed for the facility may be reduced by up to 20 mph for design of the deceleration lane. Using a design speed of 20 mph, a total of 418 feet of widening (205 for deceleration and storage and 213 for transition) would be needed for the one-side condition and 312 feet (205 feet for deceleration and storage and 107 feet for transition) would be needed to widen on both sides.

While the latter design alternative could be accommodated geometrically within the space available between the Napa River bridge and the east driveway, the improvement would require removal of at least three trees on the north side of Lodi Lane for widening to one side and numerous heritage oak trees on the south side of the roadway if widening to both sides were to occur. Design exceptions are allowed per the *Napa County Road and Street Standards* if one of the following findings can be made:

- i. The exception will preserve unique features of the natural environment which includes, but is not limited to, natural water courses, steep slopes, geological features, heritage oak trees, or other trees of least six inches in diameter at breast height and found by the decision-maker to be of significant importance, but does not include human altered environmental features such as vineyards and ornamental or decorative landscaping, or artificial features such as, rock walls, fences or the like;
- *ii.* The exception is necessary to accommodate physical site limitations such as grade differentials; and/or
- *iii.* The exception is necessary to accommodate other limiting factors such as recorded historical sites or legal constraints.

Based on the number of trees greater than six inches in diameter that would need to be removed to accommodate construction of a left-turn lane at the east driveway, including numerous heritage oak trees, an exception to the requirements for a left-turn lane may be appropriate.

Finding – Upon the addition of project trips to Existing volumes, a left-turn lane would continue to be warranted at the east driveway but would not be warranted at the west driveway.



Recommendation – Although the left-turn lane warrant is met based on volumes alone, a review of the roadside conditions indicates that numerous trees would need to be removed to accommodate the turn lane; therefore, conditions to request an exception are satisfied.

Truck Access

The AutoTURN application of AutoCAD was used to simulate the travel path for a standard 53-foot semitruck and trailer, which is the largest vehicle that would be anticipated to access the site via the western driveway. Turing movements into and out of the western driveway were overlayed on the project site plan and it was determined that the driveway would be inadequate to accommodate trucks of this size. It is recommended that the driveway to the new West Winery be improved per Standard Detail P-2 of the *Napa County Road and Street Standards*, which calls for a minimum return radius and driveway width of 20 feet. Four access exhibits simulating inbound and outbound access to and from both directions are provided in Appendix G.

Finding – Based on the site plan, access for a 53-foot semi-trailer is not adequate at the western driveway in its existing condition.

Recommendation – The western driveway should be designed and improved per the requirements outlined in the *Napa County Road and Street Standards* for a rural commercial driveway.



Parking

The project was analyzed to determine whether the proposed parking supply would be sufficient for the anticipated daily demand during harvest conditions. The project site, as proposed, would have a total of 76 parking spaces between both parcels.

To accommodate the daily parking demand for the winery and tasting room, there should be at least one space provided for every employee, as well as parking stalls for about 25 percent of the expected daily tasting room visitors. During harvest, there would be up to 56 full- and part-time employees and a maximum of 219 daily visitors to the tasting room. Assuming the County's standard occupancy rate of 2.8 guests per vehicle, a total of 78 guest vehicles would visit the site over the course of the day. Therefore, the proposed project would need at least 76 parking spaces, consisting of 56 for employees and 20 for guests assuming one-quarter of the guests would be there at any one time. The proposed supply of 76 spaces would be adequate to accommodate the approximate day-to-day peak demand.

Finding – The proposed permanent parking supply is adequate for the anticipated peak demand during typical harvest operations.



Conclusions

- The proposed modification to the Use Permit would be expected to result in a net increase of 120 daily trips on a Friday during harvest, including 17 new trips during the p.m. peak hour, and a net increase of 112 new trips on a Saturday during harvest, with 17 new trips during the peak hour.
- The study roadway segments of SR 29, Lodi Lane, and Silverado Trail are projected to operate acceptably at LOS D or better under Existing, Near-Term, and Cumulative Conditions, and would continue to do so with the addition of project traffic.
- The intersection of Silverado Trail/Lodi Lane is projected to operate acceptably at LOS B or better under Existing, Near-Term, and Cumulative Conditions, and would continue to do so with the addition of project traffic.
- Upon the addition of project trips to Existing and Near-Term volumes, the stop-controlled approach at SR 29/Lodi Lane would continue to operate unacceptably at LOS E or F, though the project would result in less than five seconds of additional delay so the effect is considered acceptable.
- Upon the addition of project trips to the anticipated Cumulative volumes, the stop-controlled approach at SR 29/Lodi Lane would continue to operate at LOS F with substantial delays and the project would result in an adverse effect since project trips represent more than 10 percent of the anticipated growth during each peak hour.
- Based on OPR guidance, the project would be expected to have a less-than-significant transportation impact on VMT.
- The lack of pedestrian facilities serving the project site does not result in an impact given the rural location and type of project.
- Similarly, the lack of convenient transit service does not result in an impact due to the lack of demand for such services, though employees could use a bicycle to travel between the project site and transit stops on SR 29 north of Lodi Lane.
- The existing Class II bike lanes on Silverado Trail along with the shared use of Lodi Lane with motorists and planned facilities consisting of the Vine Trail and a Class III bike route on SR 29 would provide adequate access for bicyclists, though such demand is expected to be limited.
- Sight distances on Lodi Lane are adequate at each driveway to meet the applied HDM criteria for both entering and exiting turning movements.
- Upon the addition of project trips to existing volumes, a left-turn lane would continue to be warranted at the east driveway based on application of the County's criterion but would not be warranted at the west driveway.



- As currently constructed, the western driveway is not adequate to accommodate turning movements for a 53-foot semi-truck and trailer.
- The proposed parking supply is adequate to accommodate the anticipated peak parking demand during harvest conditions.
- The intersection of Silverado Trail/Lodi Lane as well as the segments of Silverado Trail both north and south of the intersection have calculated collision rates above the statewide average for similar facilities.

Recommendations

- It is recommended that whichever project is approved first between the Inn at the Abbey or Duckhorn Vineyards work with the County to install a northbound speed feedback sign on Silverado Trail near the Melka Estates Winery driveway. Additionally, the applicant should work with the County to install a speed feedback sign in the southbound direction near Glass Mountain Road.
- It is recommended that the westbound approach at SR 29/Lodi Lane be restriped to include a dedicated right-turn lane. The cost for this improvement could be shared with the Inn at the Abbey since it was also recommended for that project.
- Secure parking facilities for at least ten bicycles should be provided on-site.
- Although a left-turn lane is warranted at the east driveway and would continue to be warranted with the addition of project-generated traffic, a review of the roadside conditions indicates that numerous trees would need to be removed to accommodate the turn lane; therefore, conditions to request an exception are satisfied.
- The driveway to the west winery should be improved per the County's Road and Street Standards to accommodate large semi-trucks.



Study Participants and References

Study Participants

Principal in Charge	Dalene J. Whitlock, PE, PTOE
Associate Engineer	Cameron Nye, EIT
Assistant Engineer	Kim Tellez
Graphics	Cameron Wong
Editing/Formatting	Alex Scrobonia, Hannah Yung-Boxdell, Cameron Wong
Quality Control	Dalene J. Whitlock, PE, PTOE

References

2016 Collision Data on California State Highways, California Department of Transportation, 2018
City of Napa Traffic Impact Study Guidelines, City of Napa, 2004
County of Napa Administrative Draft Traffic Impact Study Guidelines, County of Napa, 2020
Highway Capacity Manual, 6th Edition, Transportation Research Board, 2018
Highway Design Manual, 6th Edition, California Department of Transportation, 2017
Napa Countywide Bicycle Plan, Napa Valley Transportation Authority, 2019
Napa County General Plan, County of Napa, 2013
Napa County Road and Street Standards, County of Napa, 2016
Statewide Integrated Traffic Records System (SWITRS), California Highway Patrol, 2014-2019
Technical Advisory on Evaluating Transportation Impacts in CEQA, Governor's Office of Planning and Research, 2018
Traffic Impact Study for the Inn at the Abbey, W-Trans, 2019
VINE Transit, http://www.ridethevine.com

NAX142-1





Appendix A

Collision Rate Calculations





This page intentionally left blank



Roadway Segme	nt Col	lision Rate	Work	shaa	at .	
Roadway Segine				121166		
Duckhorn Viney	ards Use	Permit Modific	ation II	5		
Location:	SR 29 - E	hlers Ln to Lodi	Ln			
Date of Count:	Friday, N	lovember 20, 20	020			
Average Daily Traffic (ADT):	13,500					
Number of Collisions:	9					
Number of Injuries:	3					
Number of Fatalities:	0					
Start Date:	October	1,2014				
End Date:	Septemb	per 30, 2019				
Number of Years:	5					
	5					
Highway Type:	Convent	ional 2 lanes or	less			
Area:	Rural					
Design Speed:	<55					
Terrain:	Rolling/	Mountain				
		nountain				
Segment Length	06	miles				
Direction:	North/Sc	outh				
	10101/00					
	Number	of Collisions v 1	1 Million			
Collision Rate =	nor Voor	v Segment Long	th v Nu~	her of	Voarc	
AUT X Days	per reals	s segment teng		IDEI UI	1 Cal 3	
0		1 000 000				
Collision Rate = 12 500	X	1,000,000				
13,500	х	365 X	0.6	х	5	
Collis	on Rate	Fatality Rate	Injury	Rate		
Study Segment 0.61	c/mvm	0.0%	33.3	%		
Statewide Average* 1.10	c/mvm	2.5%	46.6	6%		
<u>Notes</u>						
ADT = average daily traffic volume	e					
c/mym = collisions per million ver	nicle miles					
e, intrin combiolis per inmon ter	nere mines					
* 2016 Collision Data on California	a State Hid	nhways Caltran	s			
* 2016 Collision Data on California	a State Hig	ghways, Caltran	s			
* 2016 Collision Data on Californi	a State Hig	ghways, Caltran	s			
* 2016 Collision Data on Californi	a State Hig	ghways, Caltran	S			
* 2016 Collision Data on Californi Location:	a State Hig SR 29 - L	ghways, Caltran odi Ln to Deer F	s Park Rd			
* 2016 Collision Data on Californi	SR 29 - L	ghways, Caltran odi Ln to Deer F	s Park Rd			
* 2016 Collision Data on Californi Location: Date of Count:	SR 29 - L Friday, N	ghways, Caltran odi Ln to Deer F lovember 20, 20	s Park Rd 020			
* 2016 Collision Data on Californi. Location: Date of Count: Average Daily Traffic (ADT):	a State Hig SR 29 - L Friday, N 14,100	ghways, Caltran odi Ln to Deer F lovember 20, 20	s Park Rd 020			
* 2016 Collision Data on Californi Location: Date of Count: Average Daily Traffic (ADT):	SR 29 - L Friday, N 14,100	ghways, Caltran odi Ln to Deer F lovember 20, 20	s Park Rd D20			
* 2016 Collision Data on Californi Location: Date of Count: Average Daily Traffic (ADT): Number of Collisions:	sR 29 - L Friday, N 14,100	ghways, Caltran odi Ln to Deer F lovember 20, 20	s Park Rd D20			
* 2016 Collision Data on Californi Location: Date of Count: Average Daily Traffic (ADT): Number of Collisions: Number of Injuries:	SR 29 - L Friday, N 14,100 15 4	ghways, Caltran odi Ln to Deer F lovember 20, 20	s Park Rd D20			
* 2016 Collision Data on Californi Location: Date of Count: Average Daily Traffic (ADT): Number of Collisions: Number of Injuries: Number of Fatalities:	SR 29 - L Friday, N 14,100 15 4 0	ghways, Caltran odi Ln to Deer F lovember 20, 20	s Park Rd 020			
* 2016 Collision Data on Californi Location: Date of Count: Average Daily Traffic (ADT): Number of Collisions: Number of Fatalities: Start Date:	SR 29 - L Friday, N 14,100 15 4 0 October	ghways, Caltran odi Ln to Deer F lovember 20, 20 1, 2014	s Park Rd D20			
* 2016 Collision Data on Californi Location: Date of Count: Average Daily Traffic (ADT): Number of Collisions: Number of Injuries: Number of Fatalities: Start Date: End Date:	SR 29 - L Friday, N 14,100 15 4 0 October Septemb	yhways, Caltran odi Ln to Deer F lovember 20, 20 1, 2014 per 30, 2019	s Park Rd 020			
* 2016 Collision Data on Californi Location: Date of Count: Average Daily Traffic (ADT): Number of Collisions: Number of Injuries: Number of Fatalities: Start Date: End Date: Number of Yeare:	SR 29 - L Friday, N 14,100 15 4 October Septemb 5	odi Ln to Deer F lovember 20, 20 1, 2014 per 30, 2019	s Park Rd D20			
* 2016 Collision Data on Californi Location: Date of Count: Average Daily Traffic (ADT): Number of Collisions: Number of Injuries: Number of Fatalities: Start Date: End Date: Number of Years:	SR 29 - L Friday, N 14,100 15 4 0 October 5	yhways, Caltran odi Ln to Deer F lovember 20, 20 1, 2014 per 30, 2019	s Park Rd D20			
* 2016 Collision Data on Californi Location: Date of Count: Average Daily Traffic (ADT): Number of Collisions: Number of Injuries: Number of Injuries: Start Date: End Date: Number of Years: Hichway Typo:	SR 29 - L Friday, N 14,100 15 4 0 October Septemt 5	yhways, Caltran odi Ln to Deer F lovember 20, 20 1, 2014 ser 30, 2019	s Park Rd D20			
* 2016 Collision Data on Californi Location: Date of Count: Average Daily Traffic (ADT): Number of Collisions: Number of Injuries: Number of Fatalities: Start Date: End Date: Number of Years: Highway Type:	SR 29 - L Friday, N 14,100 15 4 0 October Septemb 5 Convent	odi Ln to Deer F lovember 20, 20 1, 2014 per 30, 2019 ional 2 lanes or	s Park Rd 020 Iess			
* 2016 Collision Data on Californi Location: Date of Count: Average Daily Traffic (ADT): Number of Collisions: Number of Injuries: Number of Fatalities: Start Date: End Date: Number of Years: Highway Type: Area:	SR 29 - L Friday, N 14,100 15 4 0 October Septemt 5 Convent Rural	yhways, Caltran odi Ln to Deer F lovember 20, 20 1, 2014 per 30, 2019 ional 2 lanes or	s Park Rd D20 Iess			
* 2016 Collision Data on Californi Location: Date of Count: Average Daily Traffic (ADT): Number of Collisions: Number of Fatalities: Start Date: End Date: Number of Years: Highway Type: Area: Design Speed:	sR 29 - L Friday, N 14,100 15 4 0 October Septemt 5 Convent Rural ≤55	yhways, Caltran odi Ln to Deer F lovember 20, 20 1, 2014 ser 30, 2019 ional 2 lanes or	s Park Rd D20 Iess			
* 2016 Collision Data on Californi Location: Date of Count: Average Daily Traffic (ADT): Number of Collisions: Number of Fatalities: Start Date: End Date: Number of Years: Highway Type: Area: Design Speed: Terrain:	sR 29 - L Friday, N 14,100 15 4 0 October Septemt 5 Convent Rural ≤55 Rolling//	yhways, Caltran odi Ln to Deer F lovember 20, 20 1, 2014 ber 30, 2019 ional 2 lanes or Mountain	s Park Rd D20 less			
* 2016 Collision Data on Californi Location: Date of Count: Average Daily Traffic (ADT): Number of Collisions: Number of Fatalities: Start Date: End Date: Number of Years: Highway Type: Area: Design Speed: Terrain:	a State Hig SR 29 - L Friday, N 14,100 15 4 0 October Septemt 5 Convent Rural ≤55 Rolling/I	yhways, Caltran odi Ln to Deer F lovember 20, 20 1, 2014 ber 30, 2019 ional 2 lanes or Mountain	s Park Rd D20 less			
* 2016 Collision Data on Californi Location: Date of Count: Average Daily Traffic (ADT): Number of Collisions: Number of Fatalities: Start Date: End Date: Number of Years: Highway Type: Area: Design Speed: Terrain: Segment Length:	sR 29 - L Friday, N 14,100 15 4 0 October Septemt 5 Convent Rural ≤55 Rolling//	yhways, Caltran odi Ln to Deer F lovember 20, 20 1, 2014 per 30, 2019 ional 2 lanes or Viountain miles	s Park Rd D20 less			
* 2016 Collision Data on Californi Location: Date of Count: Average Daily Traffic (ADT): Number of Collisions: Number of Falalities: Start Date: End Date: Number of Years: Highway Type: Area: Design Speed: Terrain: Segment Length: Direction:	a State Hig SR 29 - L Friday, N 14,100 15 4 0 October Septemb 5 Convent Rural ≤55 Rolling/I 0.6 I North/Sc	yhways, Caltran odi Ln to Deer F lovember 20, 20 1, 2014 ser 30, 2019 ional 2 lanes or Mountain miles puth	s Park Rd D20 less			
* 2016 Collision Data on Californi Location: Date of Count: Average Daily Traffic (ADT): Number of Collisions: Number of Fatalities: Start Date: End Date: Number of Years: Highway Type: Area: Design Speed: Terrain: Segment Length: Direction:	SR 29 - L Friday, N 14,100 15 4 0 October Septemt 5 Convent Kural ≤55 Rolling// 0,6 I North/Sc	yhways, Caltran odi Ln to Deer F lovember 20, 20 1, 2014 ber 30, 2019 ional 2 lanes or Vlountain miles buth	s Park Rd D20 less			
* 2016 Collision Data on Californi Location: Date of Count: Average Daily Traffic (ADT): Number of Collisions: Number of Injuries: Number of Fatalities: Start Date: Number of Fatalities: Start Date: End Date: Number of Years: Highway Type: Area: Design Speed: Terrain: Segment Length: Direction:	a State Hig SR 29 - L Friday, N 14,100 15 4 0 October Septemt 5 Convent Rural ≤55 Rolling/I 0.6 I North/So	ghways, Caltran odi Ln to Deer F lovember 20, 20 1, 2014 oer 30, 2019 ional 2 lanes or Mountain miles outh	s Park Rd D20 less			
* 2016 Collision Data on Californi Location: Date of Count: Average Daily Traffic (ADT): Number of Collisions: Number of Fatallities: Start Date: Number of Fatallities: Start Date: End Date: Number of Years: Highway Type: Area: Design Speed: Terrain: Segment Length: Direction:	a State Hig SR 29 - L Friday, N 14,100 15 4 0 October Septemt 5 Convent Rural ≤55 Rolling// 0.6 I North/Se Number per Year 2	ghways, Caltran odi Ln to Deer F lovember 20, 20 1, 2014 per 30, 2019 ional 2 lanes or Vountain miles puth of Collisions x 1 x Segment Leng	s Park Rd D20 less <u>I Million</u>	ber of	Years	
* 2016 Collision Data on Californi Location: Date of Count: Average Daily Traffic (ADT): Number of Collisions: Number of Fatalities: Start Date: End Date: Number of Years: Highway Type: Area: Design Speed: Terrain: Segment Length: Direction: Collision Rate =	a State Hig SR 29 - L Friday, N 14,100 15 4 0 October Septemt 5 Convent Rural ≤55 Rolling/I 0.6 n North/Sc <u>Number</u> per Year 2	yhways, Caltran odi Ln to Deer F lovember 20, 20 1, 2014 per 30, 2019 ional 2 lanes or Mountain miles puth of Collisions x 1 x Segment Leng	s Park Rd D20 less <u>I Million</u> gth x Nun	sber of	Years	
* 2016 Collision Data on Californi Location: Date of Count: Average Daily Traffic (ADT): Number of Collisions: Number of Collisions: Number of Pcalities: Start Date: End Date: Number of Years: Highway Type: Area: Design Speed: Terrain: Segment Length: Direction: Collision Rate =	sR 29 - L Friday, N 14,100 15 4 0 October Septemb 5 Convent Rural ≤55 Rolling/I 0.6 n North/Sc Number per Year : x	yhways, Caltran odi Ln to Deer F lovember 20, 20 1, 2014 per 30, 2019 ional 2 lanes or Mountain miles puth <u>r of Collisions x 1</u> x <u>5000,000</u>	s Park Rd D20 less <u>I Million</u> gth x Nun	hber of	Years	
* 2016 Collision Data on Californi Location: Date of Count: Average Daily Traffic (ADT): Number of Collisions: Number of Injuries: Number of Fatalities: Start Date: Number of Fatalities: Start Date: Design Speed: Terrain: Segment Length: Direction: Collision Rate = <u>ADT × Days</u>	a State Hig SR 29 - L Friday, N 14,100 15 4 0 October Septemb 5 Convent Rural ≤55 Rolling// 0.6 I North/Sc Number per Year 2 x	phways, Caltran odi Ln to Deer F lovember 20, 20 1, 2014 ber 30, 2019 tional 2 lanes or Vlountain miles buth s <u>of Collisions x 1</u> x Segment Leng <u>1,000,000</u> <u>365 x</u>	s Park Rd D20 less <u>I Million</u> gth x Nun 0.6	suber of	Years 5	
* 2016 Collision Data on Californi Location: Date of Count: Average Daily Traffic (ADT): Number of Collisions: Number of Fatalities: Start Date: End Date: Number of Years: Highway Type: Area: Design Speed: Terrain: Segment Length: Direction: Collision Rate =	sR 29 - L Friday, N 14,100 15 4 0 October Septemt 5 Convent Rural ≤55 Rolling/I 0.6 I North/Sc Number per Year x	hways, Caltran odi Ln to Deer F lovember 20, 20 1, 2014 ber 30, 2019 ional 2 lanes or Mountain miles buth of Collisions x 1 x Segment Leng 1,000,000 365 x	s Park Rd D20 less <u>I Million</u> gth x Nun 0.6	hber of	Years 5	
* 2016 Collision Data on Californi Location: Date of Count: Average Daily Traffic (ADT): Number of Collisions: Number of Fatalities: Start Date: End Date: Number of Years: Highway Type: Area: Design Speed: Terrain: Segment Length: Direction: Collision Rate =	a State Hig SR 29 - L Friday, N 14,100 15 4 0 October Septemb 5 Convent Rural ≤55 Rolling/I 0.6 I North/Sc Number per Year 2 x x x	ghways, Caltran odi Ln to Deer F lovember 20, 20 1, 2014 per 30, 2019 ional 2 lanes or Viountain miles puth of Collisions x 1 x Segment Leng 1,000,000 365 x Fatality Rate	s Park Rd D20 less less less 0.6 0.6	hber of x Rate	Years 5	
* 2016 Collision Data on Californi Location: Date of Count: Average Daily Traffic (ADT): Number of Collisions: Number of Collisions: Number of Fatalities: Start Date: Number of Fatalities: Start Date: End Date: Number of Years: Highway Type: Area: Design Speed: Terrain: Segment Length: Direction: Collision Rate =	a State Hig SR 29 - L Friday, N 14,100 15 4 0 October Septemb 5 Convent Rural ≤55 Rolling/I 0.6 I North/Sc <u>Number</u> per Year 2 <u>x</u> x	phways, Caltran odi Ln to Deer F lovember 20, 20 1, 2014 ber 30, 2019 ional 2 lanes or Vountain miles buth of Collisions x 1 x Segment Leng <u>1,000,000</u> <u>365 x</u> Fatality Rate <u>0.0%</u>	s Park Rd D20 less less <u>I Million</u> gth x Nun 0.6 Injury 26.7	nber of X Rate %	Years 5	
* 2016 Collision Data on Californi Location: Date of Count: Average Daily Traffic (ADT): Number of Collisions: Number of Fatalites: Start Date: Number of Fatalites: Start Date: Number of Years: Highway Type: Area: Design Speed: Terrain: Segment Length: Direction: Collision Rate =ADT × Days Collision Rate =15 14,100 Study Segment <u>Collisi</u> 0.97 Statewide Average* <u>1.9</u>	a State Hig SR 29 - L Friday, N 14,100 15 4 0 October Septemb 5 Convent Rural ≤55 Rolling/I 0.6 I North/So <u>Number</u> per Year : x x ion Rate c/mvm	phways, Caltran odi Ln to Deer F lovember 20, 20 1, 2014 per 30, 2019 ional 2 lanes or Vountain miles puth of Collisions x 1 x Segment Leng 1,000,000 365 x Fatality Rate 0.0% 2.5%	s Park Rd D20 less I Million gth x Nun 0.6 Injury 26.7 46.6	hber of x Rate %	Years 5	
* 2016 Collision Data on Californi Location: Date of Count: Average Daily Traffic (ADT): Number of Collisions: Number of Fatalities: Start Date: End Date: Number of Years: Highway Type: Area: Design Speed: Terrain: Segment Length: Direction: Collision Rate =	sR 29 - L Friday, N 14,100 15 4 0 October Septemt 5 Convent Rural ≤55 Rolling/I 0.6 m North/So <u>Number</u> per Year 2 x x x x c/mvm	ghways, Caltran odi Ln to Deer F lovember 20, 20 1, 2014 per 30, 2019 ional 2 lanes or Mountain miles puth of Collisions x 1 x Segment Leng 1,000,000 365 x Fatality Rate 0.0% 2.5%	s Park Rd D20 less <u>I Million</u> gth x Nun 0.6 I njury 26.7 46.6	nber of X Rate %	Years 5	
* 2016 Collision Data on Californi Location: Date of Count: Average Daily Traffic (ADT): Number of Collisions: Number of Collisions: Number of Petalities: Start Date: End Date: Number of Years: Highway Type: Area: Design Speed: Terrain: Segment Length: Direction: Collision Rate =	sR 29 - L Friday, N 14,100 15 4 0 October Septemt 5 Convent Rural ≤55 Rolling/I 0.6 I North/Sc <u>Number</u> per Year 2 x x x ion Rate c/mvm	ghways, Caltran odi Ln to Deer F lovember 20, 20 1, 2014 ber 30, 2019 ional 2 lanes or Vlountain miles buth <u>of Collisions x 1</u> <u>of Collisions x 1</u> <u>ional 2 lanes or Vlountain miles buth <u>ional 2 lanes or Xlountain miles buth <u>ional 2 lanes or Xlountain</u> <u>ional 2 lanes or Xlountain miles buth <u>ional 2 lanes or Xlountain miles buth <u>ional 2 lanes or Xlountain</u> <u>ional 2 lanes or Xlountain miles buth <u>ional 2 lanes or</u> <u>ional 2 lanes or</u> <u>iona</u></u></u></u></u></u></u></u></u></u></u></u>	s Park Rd D20 less less 1 <u>Million</u> gth x Nun 0.6 Injury 26.7 46.6	hber of x Rate %	Years 5	
* 2016 Collision Data on Californi Location: Date of Count: Average Daily Traffic (ADT): Number of Collisions: Number of Injuries: Number of Fatalities: Start Date: Number of Fatalities: Start Date: Design Speed: Terrain: Segment Length: Direction: Collision Rate =ADT × Days Collision Rate =15 14,100 <u>Study Segment</u> <u>Collisi</u> <u>0.97</u> Statewide Average* <u>1.99</u>	a State Hig SR 29 - L Friday, N 14,100 15 4 0 October Septemb 5 Convent Rural ≤55 Rolling/f 0.6 m North/Sc Number per Year 2 x x ion Rate c/mvm c/mvm	phways, Caltran odi Ln to Deer F lovember 20, 20 1, 2014 ber 30, 2019 ional 2 lanes or Vountain miles buth of Collisions x 1 x Segment Leng 1,000,000 365 x Fatality Rate 0.0% 2.5%	s Park Rd 220 less t Million gth x Nun 0.6 Injury 26.7 46.6	hber of i x Rate %	Years 5	
* 2016 Collision Data on Californi Location: Date of Count: Average Daily Traffic (ADT): Number of Collisions: Number of Fatalities: Start Date: End Date: Number of Years: Highway Type: Area: Design Speed: Terrain: Segment Length: Direction: Collision Rate =	a State Hig SR 29 - L Friday, N 14,100 15 4 0 October Septemt 5 Convent Rural ≤55 Rolling/I 0.6 North/Sc Number per Year: x ion Rate c/mvm e nicle miles	hways, Caltran odi Ln to Deer F lovember 20, 20 1, 2014 ber 30, 2019 ional 2 lanes or Mountain miles buth of Collisions x 1 x Segment Leng 1,000,000 365 x Fatality Rate 0.0% 2.5%	s Park Rd D20 less less t Million gth x Nun 0.6 Injury 26.7 46.6	nber of x Rate %	Years 5	
* 2016 Collision Data on Californi Location: Date of Count: Average Daily Traffic (ADT): Number of Collisions: Number of Collisions: Number of Falilities: Start Date: End Date: Number of Years: Highway Type: Area: Design Speed: Terrain: Segment Length: Direction: Collision Rate =ADT × Days Collision Rate =	a State Hig SR 29 - L Friday, N 14,100 15 4 0 October Septemt 5 Convent Rural ≤55 Rolling/I 0.6 North/Sc North/Sc Number per Year 3 × ion Rate c/mvm a State Hig a State Hig	ghways, Caltran odi Ln to Deer F lovember 20, 20 1, 2014 ber 30, 2019 ional 2 lanes or Vlountain miles buth of Collisions x 1 x Segment Leng <u>1,000,000</u> <u>365 x Fatality Rate 0.0% 2.5%</u>	s Park Rd D20 less less th x Nun 0.6 Injury 26.7 46.6	nber of 7 x Rate %	Years 5	

Roadway Segme	
	nt Collision Pate Workshoot
Roadway Segine	ant comsion rate worksheet
Duckhorn Viney	ards Use Permit Modification TIS
Location:	Lodi Ln - SR 29 to West Driveway
Data of Counts	Friday November 20, 2020
	1 10dy, November 20, 2020
Average Daily Traffic (ADT):	1,800
Number of Collisions:	0
Number of Consions:	0
Number of Injuries:	0
Number of Fatalities:	0
Staut Data	Ortober 1, 2014
Start Date:	October 1, 2014
End Date:	September 30, 2019
Number of Years:	5
Number of Tears.	5
Highway Type:	Conventional 2 lanes or less
Area	Bural
Design Speed:	≤55
Terrain:	Flat
Segment Length:	0.3 miles
Direction:	East/West
	Number of Collision of Million
Collision Bate =	Number of Collisions X Million
ADT x Days	per Year x Segment Length x Number of Years
-	1 000 000
Collision Bate = 0	X 1,000,000
1,800	x 365 x 0.3 x 5
Collisi	on Pata Estality Pata Injuny Pata
Collisi	on Rate Fatality Rate injury Rate
Study Segment 0.00	c/mvm 0.0% 0.0%
Statewide Average* 0.98	c/mym 1.1% 39.5%
statemas menge	
Notes	
ADT – avorago daily traffic volum	
ADT – average daily traffic volume	
c/mvm = collisions per million ver	nicle miles
* 2016 Collision Data on California	a State Highways, Caltrans
2010 Complete Data on Camornia	a state highways, califaris
Location	Lodi La Wort Drivoucou to Silvorado Trail
Location:	Lodi Ln - West Driveway to Silverado Trail
Location:	Lodi Ln - West Driveway to Silverado Trail
Location: Date of Count:	Lodi Ln - West Driveway to Silverado Trail Friday, November 20, 2020
Location: Date of Count:	Lodi Ln - West Driveway to Silverado Trail Friday, November 20, 2020
Location: Date of Count: Average Daily Traffic (ADT):	Lodi Ln - West Driveway to Silverado Trail Friday, November 20, 2020 1,900
Location: Date of Count: Average Daily Traffic (ADT):	Lodi Ln - West Driveway to Silverado Trail Friday, November 20, 2020 1,900
Location: Date of Count: Average Daily Traffic (ADT): Number of Collisions:	Lodi Ln - West Driveway to Silverado Trail Friday, November 20, 2020 1,900 0
Location: Date of Count: Average Daily Traffic (ADT): Number of Collisions:	Lodi Ln - West Driveway to Silverado Trail Friday, November 20, 2020 1,900 0
Location: Date of Count: Average Daily Traffic (ADT): Number of Collisions: Number of Injuries:	Lodi Ln - West Driveway to Silverado Trail Friday, November 20, 2020 1,900 0
Location: Date of Count: Average Daily Traffic (ADT): Number of Collisions: Number of Injuries: Number of Fatalities:	Lodi Ln - West Driveway to Silverado Trail Friday, November 20, 2020 1,900 0 0 0
Location: Date of Count: Average Daily Traffic (ADT): Number of Collisions: Number of Injuries: Number of Fatalities: Court December of State December of State December 2015	Lodi Ln - West Driveway to Silverado Trail Friday, November 20, 2020 1,900 0 0 0 0 0
Location: Date of Count: Average Daily Traffic (ADT): Number of Collisions: Number of Injuries: Number of Fatalities: Start Date:	Lodi Ln - West Driveway to Silverado Trail Friday, November 20, 2020 1,900 0 0 0 October 1, 2014
Location: Date of Count: Average Daily Traffic (ADT): Number of Collisions: Number of Injuries: Number of Fatalities: Start Date: End Date:	Lodi Ln - West Driveway to Silverado Trail Friday, November 20, 2020 1,900 0 0 0 October 1, 2014 September 30, 2019
Location: Date of Count: Average Daily Traffic (ADT): Number of Collisions: Number of Injuries: Number of Fatalities: Start Date: End Date:	Lodi Ln - West Driveway to Silverado Trail Friday, November 20, 2020 1,900 0 0 0 October 1, 2014 September 30, 2019 5
Location: Date of Count: Average Daily Traffic (ADT): Number of Collisions: Number of Injuries: Number of Fatalities: Start Data End Date: Number of Years:	Lodi Ln - West Driveway to Silverado Trail Friday, November 20, 2020 1,900 0 0 October 1, 2014 September 30, 2019 5
Location: Date of Count: Average Daily Traffic (ADT): Number of Collisions: Number of Injuries: Number of Fatalities: Start Date: End Date: Number of Years:	Lodi Ln - West Driveway to Silverado Trail Friday, November 20, 2020 1,900 0 0 0 October 1, 2014 September 30, 2019 5
Location: Date of Count: Average Daily Traffic (ADT): Number of Collisions: Number of Injuries: Number of Fatalities: Start Date: End Date: Number of Years: Highway Type:	Lodi Ln - West Driveway to Silverado Trail Friday, November 20, 2020 1,900 0 0 0 October 1, 2014 September 30, 2019 5 Conventional 2 lanes or less
Location: Date of Count: Average Daily Traffic (ADT): Number of Collisions: Number of Injuries: Number of Fatalities: Start Date: End Date: Number of Years: Highway Type:	Lodi Ln - West Driveway to Silverado Trail Friday, November 20, 2020 1,900 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
Location: Date of Count: Average Daily Traffic (ADT): Number of Collisions: Number of Injuries: Number of Fatalities: Start Date: End Date: Number of Years: Highway Type: Area:	Lodi Ln - West Driveway to Silverado Trail Friday, November 20, 2020 1,900 0 0 October 1, 2014 September 30, 2019 5 Conventional 2 lanes or less Rural
Location: Date of Count: Average Daily Traffic (ADT): Number of Collisions: Number of Injuries: Number of Fatalities: Start Date: End Date: Number of Years: Highway Type: Area: Design Speed:	Lodi Ln - West Driveway to Silverado Trail Friday, November 20, 2020 1,900 0 0 0 October 1, 2014 September 30, 2019 5 Conventional 2 lanes or less Rural <=55
Location: Date of Count: Average Daily Traffic (ADT): Number of Collisions: Number of Injuries: Number of Fatalities: Start Date: End Date: Number of Years: Highway Type: Area: Design Speed: Terrain:	Lodi Ln - West Driveway to Silverado Trail Friday, November 20, 2020 1,900 0 0 October 1, 2014 September 30, 2019 5 Conventional 2 lanes or less Rural <=55 Flat
Location: Date of Count: Average Daily Traffic (ADT): Number of Collisions: Number of Injuries: Number of Fatalities: Start Date: End Date: Number of Years: Highway Type: Area: Design Speed: Terrain:	Lodi Ln - West Driveway to Silverado Trail Friday, November 20, 2020 1,900 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
Location: Date of Count: Average Daily Traffic (ADT): Number of Collisions: Number of Injuries: Number of Fatalities: Start Date: End Date: End Date: Number of Years: Highway Type: Area: Design Speed: Terrain:	Lodi Ln - West Driveway to Silverado Trail Friday, November 20, 2020 1,900 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
Location: Date of Count: Average Daily Traffic (ADT): Number of Collisions: Number of Injuries: Number of Fatalities: Start Date: End Date: Number of Years: Highway Type: Area: Design Speed: Terrain: Segment Length:	Lodi Ln - West Driveway to Silverado Trail Friday, November 20, 2020 1,900 0 0 0 October 1, 2014 September 30, 2019 5 Conventional 2 lanes or less Rural <=55 Flat
Location: Date of Count: Average Daily Traffic (ADT): Number of Collisions: Number of Injuries: Number of Fatalities: Start Date: End Date: Number of Years: Highway Type: Area: Design Speed: Terrain: Segment Length: Direction:	Lodi Ln - West Driveway to Silverado Trail Friday, November 20, 2020 1,900 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
Location: Date of Count: Average Daily Traffic (ADT): Number of Collisions: Number of Injuries: Number of Fatalities: Start Date: End Date: Number of Years: Highway Type: Area: Design Speed: Terrain: Segment Length: Direction:	Lodi Ln - West Driveway to Silverado Trail Friday, November 20, 2020 1,900 0 0 October 1, 2014 September 30, 2019 5 Conventional 2 lanes or less Rural <=55 Flat 0.3 miles East/West
Location: Date of Count: Average Daily Traffic (ADT): Number of Collisions: Number of Injuries: Number of Fatalities: Start Date: End Date: Number of Years: Highway Type: Area: Design Speed: Terrain: Segment Length: Direction:	Lodi Ln - West Driveway to Silverado Trail Friday, November 20, 2020 1,900 0 0 0 0 0 0 0 0 0 0 0 0
Location: Date of Count: Average Daily Traffic (ADT): Number of Collisions: Number of Injuries: Number of Fatalities: Start Date: End Date: End Date: Number of Years: Number of Years: Highway Type: Area: Design Speed: Terrain: Segment Length: Direction:	Lodi Ln - West Driveway to Silverado Trail Friday, November 20, 2020 1,900 0 0 0 0 0 0 0 0 0 0 0 0
Location: Date of Count: Average Daily Traffic (ADT): Number of Collisions: Number of Injuries: Number of Fatalities: Start Date: End Date: Number of Years: Highway Type: Area: Design Speed: Terrain: Segment Length: Direction:	Lodi Ln - West Driveway to Silverado Trail Friday, November 20, 2020 1,900 0 0 0 0 0 0 0 0 0 0 0 0
Location: Date of Count: Average Daily Traffic (ADT): Number of Collisions: Number of Injuries: Number of Fatalities: Start Date: Number of Patalities: End Date: Number of Vears: Highway Type: Area: Design Speed: Terrain: Segment Length: Direction:	Lodi Ln - West Driveway to Silverado Trail Friday, November 20, 2020 1,900 0 0 0 0 0 0 0 0 0 0 0 0
Location: Date of Count: Average Daily Traffic (ADT): Number of Collisions: Number of Injuries: Number of Fatalities: Start Date: End Date: End Date: Number of Years: Number of Years: Number of Years: Number of Years: Segment Length: Direction: Collision Rate =	Lodi Ln - West Driveway to Silverado Trail Friday, November 20, 2020 1,900 0 0 0 0 0 0 0 0 0 0 0 0
Location: Date of Count: Average Daily Traffic (ADT): Number of Collisions: Number of Injuries: Number of Fatalities: Start Date: End Date: Number of Years: Highway Type: Area: Design Speed: Terrain: Segment Length: Direction: Collision Rate =	Lodi Ln - West Driveway to Silverado Trail Friday, November 20, 2020 1,900 0 0 0 0 0 0 0 0 0 0 0 0
Location: Date of Count: Average Daily Traffic (ADT): Number of Collisions: Number of Injuries: Number of Fatalities: Start Date: End Date: End Date: Number of Years: Number of Years: Number of Years: Design Speed: Terrain: Segment Length: Direction: Collision Rate =	Lodi Ln - West Driveway to Silverado Trail Friday, November 20, 2020 1,900 0 0 0 0 0 0 0 0 0 0 0 0
Location: Date of Count: Average Daily Traffic (ADT): Number of Collisions: Number of Falalities: Start Date: End Date: Number of Years: Highway Type: Area: Design Speed: Terrain: Segment Length: Direction: Collision Rate = <u>0</u> 1,900	Lodi Ln - West Driveway to Silverado Trail Friday, November 20, 2020 1,900 0 0 0 0 0 0 0 0 0 0 0 0
Location: Date of Count: Average Daily Traffic (ADT): Number of Collisions: Number of Fatalities: Start Date: Number of Years: Start Date: Number of Years: Highway Type: Area: Design Speed: Terrain: Segment Length: Direction: Collision Rate =	Lodi Ln - West Driveway to Silverado Trail Friday, November 20, 2020 1,900 0 0 0 0 0 0 0 0 0 0 0 0
Location: Date of Count: Average Daily Traffic (ADT): Number of Collisions: Number of Injuries: Number of Fatalities: Start Date: End Date: Number of Years: Highway Type: Area: Design Speed: Terrain: Segment Length: Direction: Collision Rate =	Lodi Ln - West Driveway to Silverado Trail Friday, November 20, 2020 1,900 0 0 0 0 0 0 0 0 0 0 0 0
Location: Date of Count: Average Daily Traffic (ADT): Number of Collisions: Number of Injuries: Number of Fatalities: Start Date: End Date: Number of Years: Highway Type: Area: Design Speed: Terrain: Segment Length: Direction: Collision Rate =	Lodi Ln - West Driveway to Silverado Trail Friday, November 20, 2020 1,900 0 0 0 0 0 0 0 0 0 0 0 0
Location: Date of Count: Average Daily Traffic (ADT): Number of Collisions: Number of Injuries: Number of Fatalities: Start Date: End Date: Number of Years: Highway Type: Area: Design Speed: Terrain: Segment Length: Direction: Collision Rate =	Lodi Ln - West Driveway to Silverado Trail Friday, November 20, 2020 1,900 0 0 0 0 0 0 0 0 0 0 0 0
Location: Date of Count: Average Daily Traffic (ADT): Number of Collisions: Number of Injuries: Number of Fatalities: Start Date: End Date: Number of Years: Highway Type: Area: Design Speed: Terrain: Segment Length: Direction: Collision Rate =	Lodi Ln - West Driveway to Silverado Trail Friday, November 20, 2020 1,900 0 0 0 0 0 0 0 0 0 0 0 0
Location: Date of Count: Average Daily Traffic (ADT): Number of Collisions: Number of Injuries: Number of Peatalities: Start Date: End Date: Number of Years: Highway Type: Area: Design Speed: Terrain: Segment Length: Direction: Collision Rate =	Lodi Ln - West Driveway to Silverado Trail Friday, November 20, 2020 1,900 0 0 0 0 0 0 0 0 0 0 0 0
Location: Date of Count: Average Daily Traffic (ADT): Number of Collisions: Number of Injuries: Number of Fatalities: Start Date: End Date: Number of Years: Highway Type: Area: Design Speed: Terrain: Segment Length: Direction: Collision Rate =	Lodi Ln - West Driveway to Silverado Trail Friday, November 20, 2020 1,900 0 0 0 0 0 0 0 0 0 0 0 0
Location: Date of Count: Average Daily Traffic (ADT): Number of Collisions: Number of Injuries: Number of Injuries: Number of Peatalities: Start Date: End Date: Number of Years: Highway Type: Area: Design Speed: Terrain: Segment Length: Direction: Collision Rate =	Lodi Ln - West Driveway to Silverado Trail Friday, November 20, 2020 1,900 0 0 0 0 0 0 0 0 0 0 0 0
Location: Date of Count: Average Daily Traffic (ADT): Number of Collisions: Number of Injuries: Number of Fatalities: Start Date: End Date: Number of Years: Highway Type: Area: Design Speed: Terrain: Segment Length: Direction: Collision Rate =0 1,900 Statewide Average* Collision Rate =0 0.000 0.07 Notes ADT = average daily traffic volume c/mym = collision sper million vel	Lodi Ln - West Driveway to Silverado Trail Friday, November 20, 2020 1,900 0 0 0 0 0 0 0 0 0 0 0 0
Location: Date of Count: Average Daily Traffic (ADT): Number of Collisions: Number of Injuries: Number of Fatalities: Start Date: Number of Years: Highway Type: Area: Design Speed: Terrain: Segment Length: Direction: Collision Rate = $\frac{0}{1,900}$ Collision Rate = $\frac{0}{1,900}$ Statewide Average* ADT = average daily traffic volume c/mym = collision per million vet * 2016 Collision per million vet	Lodi Ln - West Driveway to Silverado Trail Friday, November 20, 2020 1,900 0 0 0 0 0 0 0 0 0 0 0 0
Location: Date of Count: Average Daily Traffic (ADT): Number of Collisions: Number of Injuries: Number of Fatalities: Start Date: Rumber of Years: Highway Type: Area: Design Speed: Terrain: Segment Length: Direction: Collision Rate = Collision Rate = Collision Rate = <u>ADT × Days</u> Collision Rate = <u>Collision Rate =</u> <u>Collision Rate =</u> <u>Collision Rate =</u> <u>Collision Rate =</u> <u>Collision Rate =</u> <u>Collision Rate =</u> <u>ADT × Days</u> <u>Collision Rate =</u> <u>Collision Rate =</u>	Lodi Ln - West Driveway to Silverado Trail Friday, November 20, 2020 1,900 0 0 0 0 0 0 0 0 0 0 0 0

Roadway Segme Duckhorn Viney								
Duckhorn Viney	nt Col	licion Rate	Workshe	ot				
Duckhorn Viney		ision nate		- 1 1				
	ards Use	Permit Modific	ation TIS					
Location:	Silverad	o Trail - Glass Mt	n Rd to Lodi Lr	,				
200000	Silveruu	o main Glass Mit						
Data af Caunt	Fuiday N	Lauranah ar 20, 20	20					
Date of Count:	Friday, r	lovember 20, 20	120					
Average Daily Traffic (ADT):	6,500							
Number of Collisions:	10							
Number of Injuries	1							
Number of Injuries:	1							
Number of Fatalities:	0							
Start Date:	October	1, 2014						
End Date:	Septem	ber 30, 2019						
Number of Vears:	5	-						
Number of reals.	5							
	_							
Highway Type:	Convent	tional 2 lanes or	less					
Area:	Rural							
Design Speed:	<55							
Terrain	Rolling/	Mountain						
renam.	Noning/	viountain						
Segment Length:	0.5	miles						
Direction:	North/S	outh						
	Number	of Collisions v 1	Million					
Collision Rate =	nor Voor	v Segment Long	ith y Number o	f Voars				
ADTX Days	per rear	x segment Leng	un x inumber 0	116015				
Collision Pate – 10	х	1,000,000						
Collision Rate =6,500	х	365 x	0.5 x	5				
Collisi	on Poto	Estality Pate	Inium Pata					
Comsi		Falality hate	injury kate	_				
Study Segment 1.69	c/mvm	0.0%	10.0%	_				
Statewide Average* 1.12	c/mvm	2.5%	46.6%					
Notes								
ADT avarage deily traffic values								
ADT = average daily traffic volume	2							
c/mvm = collisions per million veh	nicle miles							
* 2016 Collision Data on California	a State Hi	ghways, Caltran:	s					
L a satismu	Cilcum d	- Tasti I - di La d						
Location:	Silverad	o Trail - Lodi Ln i	to Deer Park Ro	1				
Date of Count:	Friday, November 20, 2020							
Average Daily Traffic (ADT):	6.700							
Average baily frame (ADT).	0,, 00							
Number of Collisions:	10							
Number of Injuries	1							
Number of injuries:								
Number of Fatalities:	0							
Number of Fatalities: Start Date:	0 October	1 2014						
Number of Hjuries: Number of Fatalities: Start Date	0 October	1, 2014						
Number of Fatalities: Number of Fatalities: Start Date: End Date:	0 October Septem	1, 2014 ber 30, 2019						
Number of Fatalities: Number of Fatalities: Start Date: End Date: Number of Years:	0 October Septem 5	1, 2014 ber 30, 2019						
Number of Fatalities: Start Date: End Date: Number of Years:	0 October Septem 5	1, 2014 ber 30, 2019						
Number of Fatalities: Number of Fatalities: Start Date: End Date: Number of Years: Highway Type:	0 October Septem 5 Convent	1, 2014 ber 30, 2019 tional 2 lanes or	less					
Number of Fatalities: Number of Fatalities: Start Date: End Date: Number of Years: Highway Type:	0 October Septem 5 Convent	1, 2014 ber 30, 2019 tional 2 lanes or	less					
Number of Fatalities: Number of Fatalities: Start Date: End Date: Number of Years: Highway Type: Area:	0 October Septem 5 Convent Rural	1, 2014 ber 30, 2019 tional 2 lanes or	less					
Number of Fatalities: Number of Fatalities: Start Date: End Date: Number of Years: Highway Type: Area: Design Speed:	0 October Septem 5 Convent Rural <=55	1, 2014 ber 30, 2019 tional 2 lanes or	less					
Number of Fatalities: Number of Fatalities: Start Date: End Date: Number of Years: Highway Type: Area: Design Speed: Terrain:	0 October Septem 5 Convent Rural <=55 Rolling/	1, 2014 ber 30, 2019 tional 2 lanes or Mountain	less					
Number of Fatalities: Number of Fatalities: Start Date: End Date: Number of Years: Highway Type: Area: Design Speed: Terrain:	0 October Septem 5 Convent Rural <=55 Rolling/	1, 2014 ber 30, 2019 tional 2 lanes or Mountain	less					
Number of Fatalities: Number of Fatalities: End Date: Number of Years: Highway Type: Area: Design Speed: Terrain: Segment Length:	0 October Septemi 5 Convent Rural <=55 Rolling/ 0.5	1, 2014 ber 30, 2019 tional 2 lanes or Mountain miles	less					
Number of Fatalities: Number of Fatalities: Start Date: End Date: Number of Years: Highway Type: Area: Design Speed: Terrain: Segment Length:	0 October Septemi 5 Convent Rural <=55 Rolling/1 0.5 North/S	1, 2014 ber 30, 2019 tional 2 lanes or Mountain miles outh	less					
Number of Fatalities: Number of Fatalities: Start Date: End Date: Number of Years: Highway Type: Area: Design Speed: Terrain: Segment Length: Direction:	0 October Septem 5 Convent Rural <=55 Rolling/ 0.5 North/S	1, 2014 ber 30, 2019 tional 2 lanes or Mountain miles puth	less					
Number of Fatalities: Number of Fatalities: End Date: Number of Years: Highway Type: Area: Design Speed: Terrain: Segment Length: Direction:	0 October Septemi 5 Convent Rural <=55 Rolling/ 0.5 North/S	1, 2014 ber 30, 2019 tional 2 lanes or Mountain miles outh	less					
Number of Fatalities: Number of Fatalities: Start Date: End Date: Number of Years: Highway Type: Area: Design Speed: Terrain: Segment Length: Direction:	0 October Septemi 5 Convent Rural <=55 Rolling/ 0.5 North/S	1, 2014 ber 30, 2019 tional 2 lanes or Mountain miles outh	less Million					
Number of Fatalities: Number of Fatalities: Start Date: End Date: Number of Years: Highway Type: Area: Design Speed: Terrain: Segment Length: Direction: Collision Rate =	0 October Septemi 5 Conven Rural <=55 Rolling/ 0.5 North/S Number per Year	1, 2014 ber 30, 2019 tional 2 lanes or Mountain miles buth to of Collisions x 1 x Segment Leng	less Million th x Number o	f Years				
Number of Fatalities: Number of Fatalities: Start Date: End Date: Number of Years: Highway Type: Area: Design Speed: Terrain: Segment Length: Direction: Collision Rate =	0 October Septemi 5 Conveni Rural <=55 Rolling/ 0.5 North/S <u>Number</u> per Year	1, 2014 ber 30, 2019 tional 2 lanes or Mountain miles outh to <u>f Collisions x 1</u> x Segment Leng	less Million th x Number o	fYears				
Number of Fatalities: Start Date: End Date: Number of Years: Highway Type: Area: Design Speed: Terrain: Segment Length: Direction: Collision Rate =	0 October Septemi 5 Convent Rural <=55 Rolling/ 0.5 North/Si <u>Number</u> per Year x	1, 2014 ber 30, 2019 tional 2 lanes or Mountain miles outh <u>r of Collisions x 1</u> x Segment Leng 1,000,000	less Million th x Number o	f Years				
Number of Fatalities: Number of Fatalities: Start Date: End Date: Number of Years: Highway Type: Area: Design Speed: Terrain: Segment Length: Direction: Collision Rate = <u>ADT x Days</u> Collision Rate = <u>10</u>	0 October Septemi 5 Conveni Rural <=55 Rolling/ 0.5 North/S Number per Year x	1, 2014 ber 30, 2019 tional 2 lanes or Mountain miles buth to of Collisions x 1 x Segment Leng 1,000,000	Million th x Number o	f Years				
Number of Fatalities: Number of Fatalities: Start Date: End Date: Number of Years: Highway Type: Area: Design Speed: Terrain: Segment Length: Direction: Collision Rate = <u>ADT x Days</u> Collision Rate = <u>10</u> 6,700	0 October Septemi 5 Convent Rural <=55 Rolling/ 0.5 North/S Number per Year x x	1, 2014 ber 30, 2019 tional 2 lanes or Mountain miles outh to f Collisions x 1 x Segment Leng 1,000,000 365 x	Million th x Number o 0.5 x	f Years				
Number of Fatalities: Number of Fatalities: Start Date: End Date: Number of Years: Highway Type: Area: Design Speed: Terrain: Segment Length: Direction: Collision Rate = 10 6,700	0 October Septemi 5 Conven Rural <=55 Rolling/ 0.5 North/S <u>Number</u> per Year <u>x</u>	1, 2014 ber 30, 2019 tional 2 lanes or Mountain miles buth to f Collisions x 1 x Segment Leng 1,000,000 365 x	Million th x Number o	f Years				
Number of Fatalities: Number of Fatalities: Start Date: End Date: Number of Years: Highway Type: Area: Design Speed: Terrain: Segment Length: Direction: Collision Rate =	0 October Septem 5 Conven: Rural <=55 Rolling/ 0.5 North/S: <u>Number</u> per Year <u>x</u> x on Rate	1, 2014 ber 30, 2019 tional 2 lanes or Mountain miles buth to f Collisions x 1 x Segment Leng 1,000,000 365 x Fatality Rate	Million th x Number o 0.5 x Injury Rate	f Years 5				
Number of Fatalities: Start Date: End Date: Number of Years: Highway Type: Area: Design Speed: Terrain: Segment Length: Direction: Collision Rate = ADT x Days Collision Rate = 10 6,700 Study Segment	0 October Septemi 5 Convent Rural <=55 Rolling/. 0.5 North/S Number per Year x x on Rate c/mvm	1, 2014 ber 30, 2019 tional 2 lanes or Mountain miles outh cof Collisions x 1 x Segment Leng 1,000,000 365 x Fatality Rate 0.0%	Million th x Number o 0.5 x Injury Rate 10.0%	f Years 5				
Number of Fatalities: Number of Fatalities: Start Date: End Date: Number of Years: Highway Type: Area: Design Speed: Terrain: Segment Length: Direction: Collision Rate = ADT x Days Collision Rate = 10 6,700 Study Segment Collision Rate =	0 October Septemi 5 Convent Rural <=55 Rolling/ 0.5 North/S Number per Year x x on Rate c/mvm	1, 2014 ber 30, 2019 tional 2 lanes or Mountain miles buth to f Collisions x 1 x Segment Leng 1,000,000 365 x Fatality Rate 0.0% 2.5%	Million th x Number o 0.5 x Injury Rate 10.0% 46.6%	f Years 5				
Number of Fatalities: Number of Fatalities: Start Date: End Date: Number of Years: Highway Type: Area: Design Speed: Terrain: Segment Length: Direction: Collision Rate =	0 October Septem 5 Conven: Rural <=55 Rolling/ 0.5 North/Si per Year x x on Rate c/mvm	1, 2014 ber 30, 2019 tional 2 lanes or Mountain miles buth to f Collisions x 1 x Segment Leng 1,000,000 365 x Fatality Rate 0.0% 2.5%	Million th x Number o 0.5 x Injury Rate 10.0% 46.6%	f Years 5 -				
Number of Fatalities: Number of Fatalities: Start Date: End Date: Number of Years: Highway Type: Area: Design Speed: Terrain: Segment Length: Direction: Collision Rate =	0 October Septemi 5 Convent Rural <=55 Rolling/. 0.5 North/S North/S Number per Year x x on Rate c/mvm	1, 2014 ber 30, 2019 tional 2 lanes or Mountain miles outh to f Collisions x 1 x Segment Leng 1,000,000 365 x Fatality Rate 0.0% 2.5%	Million th x Number o 0.5 x Injury Rate 10.0% 46.6%	f Years 5 –				
Number of Fatalities: Number of Fatalities: Start Date: End Date: Number of Years: Highway Type: Area: Design Speed: Terrain: Segment Length: Direction: Collision Rate = ADT x Days Collision Rate = 10 6,700 Study Segment 1.64 Notes	0 October Septemi 5 Convent Rural <=55 Rolling/ 0.5 North/S: Number per Year x x on Rate c/mvm	1, 2014 ber 30, 2019 tional 2 lanes or Mountain miles buth to of Collisions x 1 x Segment Leng 1,000,000 365 x Fatality Rate 0.0% 2.5%	Million th x Number o 0.5 x Injury Rate 10.0% 46.6%	f Years 5 -				
Number of Fatalities: Number of Fatalities: Start Date: End Date: Number of Years: Highway Type: Area: Design Speed: Terrain: Segment Length: Direction: Collision Rate = ADT x Days Collision Rate = Study Segment Study Segment 1.64 Notes ADT = average daily traffic volume	0 October Septemi 5 Convent Rural <=55 Rolling/ 0.5 North/S North/S Number per Year x x on Rate c/mvm	1, 2014 ber 30, 2019 tional 2 lanes or Mountain miles outh x Segment Leng 1,000,000 365 x Fatality Rate 0.0% 2.5%	Million th x Number o 0.5 x Injury Rate 10.0% 46.6%	f Years 5 -				
Number of Fatalities: Number of Fatalities: Start Date: End Date: Number of Years: Highway Type: Area: Design Speed: Terrain: Segment Length: Direction: Collision Rate = ADT × Days Collision Rate = 10 6,700 Study Segment 1.64 Statewide Average* 1.12 Notes ADT = average daily traffic volume c/mvm = collisions per million veh	0 October Septemi 5 Convent Rural <=55 Rolling/ 0.5 North/S Number per Year x x on Rate c/mvm	1, 2014 ber 30, 2019 tional 2 lanes or Mountain miles buth to f Collisions x 1 x Segment Leng 1,000,000 365 x Fatality Rate 0.0% 2.5%	Million th x Number o 0.5 x Injury Rate 10.0% 46.6%	f Years 5 — —				
Number of Fatalities: Number of Fatalities: Start Date: End Date: Number of Years: Highway Type: Area: Design Speed: Terrain: Segment Length: Direction: Collision Rate = ADT x Days Collision Rate = 10 6,700 Study Segment 1.64 Notes ADT = average daily traffic volume c/mvm = collisions part million vel*	0 October Septemi 5 Conven: Rural <=55 Rolling/ 0.5 North/S: <u>Number</u> per Year <u>x</u> <u>x</u> <u>on Rate</u> <u>c/mvm</u>	1, 2014 ber 30, 2019 tional 2 lanes or Mountain miles buth to f Collisions x 1 x Segment Leng 1,000,000 365 x Fatality Rate 0.0% 2.5%	Million th x Number o 0.5 x Injury Rate 10.0% 46.6%	f Years 5 -				
Number of Fatalities: Number of Fatalities: Start Date: End Date: Number of Years: Highway Type: Area: Design Speed: Terrain: Segment Length: Direction: Collision Rate = ADT × Days Collision Rate = Study Segment 6,700 Study Segment 1.64 Notes ADT = average daily traffic volume c/mvm = collisions per million vel * 2016 Collision Data on California	0 October Septemi 5 Conven: Rural <=55 Rolling/. 0.5 North/S North/S Number per Year x x on Rate c/mvm c/mvm	1, 2014 ber 30, 2019 tional 2 lanes or Mountain miles outh cof Collisions x 1 x Segment Leng 1,000,000 365 x Fatality Rate 0.0% 2.5%	Million th x Number o 0.5 x Injury Rate 10.0% 46.6%	f Years 5 –				

Appendix B

Traffic Counts and Heavy Vehicle Data





This page intentionally left blank

SR 29 and St Helena Hwy & Lodi Ln



SR 29/St Helena Hwy & Lodi Ln



Silverado Trail N & Lodi Ln



Silverado Trail N & Lodi Ln



Prepared by NDS/ATD VOLUME

Duckhorn Vineyards Dwy N/O Lodi Ln

Day: Friday Date: 10/18/2019

City:	St Helena	
Project #:	CA19_8531_001	

	ΠΑΙΙ Υ ΤΟΤΑΙ S		-	NB		SB		EB	١	NB					Т	otal
	BALLITOTALO			0		0		202	2	221					4	123
AM Period	NB SB	EB		WB		TO	TAL	PM Period	NB	SB	E	В	WB		TC	DTAL
00:00 00:15		0		0 0		0		12:00 12:15			3		5 5		8 8	
00:30		0		0		0		12:30			8		4		12	
00:45		0		0		0		12:45			8	22	12	26	20	48
01:15		0		0		0		13:15			9		6		15	
01:30		0		0		0		13:30			7	20	7	20	14	
01:45		0		0		0		13:45			4	29	9	28	17	57
02:15		0		Õ		Ő		14:15			9		7		16	
02:30		0		0		0		14:30			4	20	9	20	13	F 7
02:45		0		0		0		14:45			6	. 28	6	29	18	57
03:15		1		0		1		15:15			3		7		10	
03:30		0	1	3	2	3	4	15:30 15:45			9	26	2	20	11	16
04:00		2	1	0	3	2	4	16:00			8	20	5	20	13	40
04:15		0		0		0		16:15			11	L	2		13	
04:30 04:45		0	2	0		0	2	16:30 16:45			9	36	2	10	11 9	46
05:00		1	-	0		1		17:00			12	2	0	10	12	
05:15		0		0		0		17:15			6		0		6	
05:30		0	1	0		0	1	17:30			2	20	0		2	20
06:00		0		0		0		18:00			0		0		0	
06:15		0		0		0		18:15			2		1		3	
06:45		0		5 11	16	5 11	16	18:45			0	2	0	1	0	3
07:00		2		2		4		19:00			0		0		0	
07:15		1		4		5		19:15			0		0		0	
07:45		1	4	1	9	2	13	19:45			0		0		0	
08:00		0		3		3		20:00			0		0		0	
08:15 08:30		0		2		2		20:15			0		0		0	
08:45		0	1	5	15	5	16	20:45			0		0		0	
09:00		2		5		7		21:00			0		0		0	
09:15		1		5		1 7		21:15			0		0		0	
09:45		1	6	1	11	2	17	21:45			0		0		0	
10:00		0		4		4		22:00			0		0		0	
10:15		1		9 7		8		22:30			0		0		0	
10:45		2	4	3	23	5	27	22:45			1	1	0		1	1
11:00 11:15		2		5 5		7 11		23:00 23:15			0		0		0	
11:30		7		10		17		23:30			0		0		0	
11:45		4	19	10	30	14	49	23:45			0		0		0	
TOTALS			38		107		145	TOTALS				164		114		278
SPLIT %			26.2%		73.8%		34.3%	SPLIT %				59.0%	5	41.0%		65.7%
	DAILY TOTALS			NB		SB		EB	١	NB					T	otal
				0		0		202		221					4	23
AM Peak Hour			11:15		11:00		11:15	PM Peak Hour				16:15		12:45		12:45
AM Pk Volume			20		30		50	PM Pk Volume				40		31		60
7 - 9 Volume	0)	5		24		29	4 - 6 Volume		0	0	56		10		66
7 - 9 Peak Hour			07:00		08:00		08:00	4 - 6 Peak Hour				16:15		16:00		16:00
7 - 9 Pk Volume			4		15		16	4 - 6 Pk Volume				40		10		46
Pk Hr Factor	0.000 0.0	000	0.500		0.750		0.667	Pk Hr Factor	0	.000	0.000	0.833		0.500		0.885

Prepared by NDS/ATD **VOLUME** Duckhorn Vineyards Dwy N/O Lodi Ln

Day: Saturday Date: 10/19/2019

7 - 9 Pk Volume Pk Hr Factor

City:	St Hel	ena	
Project #:	CA19_	_8531_	_001

37 0.712

6

0.500

31

0.596

	DAILY TOTALS		NB		SB		EB	WB						To	tal
		50	0		0		183	209	60	50		14/0		3	92
00:00	NB SB	<u>ЕВ</u> 0	0 0		0	AL	12:00	NB	5B	ЕВ 7		<u>wв</u> 7	_	14	IAL
00:15		0	0		0		12:15			3		8		11	
00:30		0	0		0		12:30			10	20	7	-	17	62
00:45		0	0		0		12:45			8	28	8	5	15	63
01:15		0	Ő		Ő		13:15			9		10		19	
01:30		0	0		0		13:30			6		9		15	
01:45		0	0		0		13:45 14:00			6	28	5 3	2	11	60
02:15		0	0		0 0		14:15			2		9		11	
02:30		0	0		0		14:30			8		9		17	
02:45		0	0		0		14:45			5	23	4 2	9	9	52
03:00		0	0		0		15:00			/		5		12 16	
03:30		0	0		0 0		15:30			10		1		12	
03:45		0	0		0		15:45			4	32	2 1	4	6	46
04:00		0	0		0		16:00			7		3		10	
04:15		0	0		0		16:15			5		1		6 8	
04:45		õ	õ		Ő		16:45			13	31	0 6	;	13	37
05:00		0	0		0		17:00			3		0		3	
05:15		0	0		0		17:15			1		0		1	
05:30		0	0		0		17:45			1	5	0		1	5
06:00		0	0		0		18:00			2		1		3	
06:15		0	0		0		18:15			0		0		0	
06:30		0	2	F	2	E	18:30 18:45			0	r	0		0	2
07:00		1	0	J	1	5	19:00			4	2	0 1	-	4	5
07:15		0	0		0		19:15			0		0		0	
07:30		0	0		0		19:30			0		0		0	
07:45		0 1	0		0	1	19:45			0	4	0	_	0	4
08:15		0	2		2		20:15			0		0		0	
08:30		0	2		2		20:30			0		0		0	
08:45		3 3	15	20	18	23	20:45			0		0	_	0	
09:00		1	2		3		21:00			0		0		0	
09:30		1	ō		1		21:30			Ő		0		Õ	
09:45		1 4	8	12	9	16	21:45			0		0		0	
10:00 10:15		0	4		4		22:00			1		0		1	
10:15		2	11		13		22:30			0		0		0	
10:45		4 6	7	26	11	32	22:45			0	1	0		0	1
11:00		1	6		7		23:00			0		0		0	
11:15 11·30		4	10		14 7		23:15			0		0		0	
11:45		8 15	8	29	, 16	44	23:45			0		0		0	
TOTALS		29		92		121	TOTALS				154	11	.7		271
SPLIT %		24.0	%	76.0%	т,	30.9%	SPLIT %			5	6.8%	43.	.2%		69.1%
			NB		SB		EB	WB						To	tal
	DAILY TOTALS		0		0		183	209						3	92
AM Peak Hour		11:4	5	10:30		11:45	PM Peak Hour				12:30	12	:45		12:30
AM Pk Volume		28	0	34		58	PIVI PK Volume				34 0.850	4	0		72
7 - 9 Volume	0 0	0.70	0	20		24	4 - 6 Volume	0	0		36	0.7 F	59	_	42
7 - 9 Peak Hour		4	0	08.00		08.00	A - 6 Peak Hour				16.00	16	.00		16:00

4 - 6 Pk Volume

Pk Hr Factor

23

0.319

3

0.250

20

Prepared by NDS/ATD **VOLUME** Duckhorn Vineyards Dwy N/O Lodi Ln

Day: Sunday Date: 10/20/2019

Pk Hr Factor

City:	St Hel	ena	
Project #:	CA19_	8531	001

0.536

0.375

0.482

					NB		SB		EB		WB						_ T	otal
	DAILY	OTALS			0		0		126		123						2	49
AM Period	NB	SB	EB		WB		ТО	TAL	PM Period	NB		SB	EB		WB		то	TAL
00:00			0		0		0		12:00 12:15				5		2		7	
00:15			0		0		0		12:15				3 6		5		10	
00:45			0		0		0		12:45				4	18	4	18	8	36
01:00			0		0		0		13:00				7		6		13	
01:15			0		0		0		13:15				4		4		8	
01:30			0		0		0		13:30				6	~ ~	2		8	20
01:45			0		0		0		13:45				/	24		14	9	38
02:00			0		0		0		14:00				4 6		2		8	
02:30			Ő		0		0		14:30				1		3		4	
02:45			0		0		0		14:45				4	15	7	21	11	36
03:00			0		0		0		15:00				3		4		7	
03:15			0		0		0		15:15				5		3		8	
03:30			0		0		0		15:30				6	14	1	0	1	22
03:45			0		0		0		15:45				6	14		9	1	23
04:00			0		0		0		16:15				6		0		6	
04:30			Õ		Õ		Ő		16:30				1		1		2	
04:45			0		0		0		16:45				6	19	2	3	8	22
05:00			0		0		0		17:00				14		0		14	
05:15			0		0		0		17:15				4		0		4	
05:30			0		0		0		17:30				2	20	0		2	20
05:45			0		0		0		17:45				0	20	0		0	20
06:15			0		0		0		18:15				0		1		1	
06:30			Õ		Ő		Ő		18:30				õ		ō		Ō	
06:45			0		0		0		18:45				0		0	1	0	1
07:00			0		0		0		19:00				0		0		0	
07:15			0		0		0		19:15				0		0		0	
07:30			0		0		0		19:30				0		0		0	
07:45					1		1		20:00				0		1		1	
08:00			0		0		Ō		20:15				1		1		2	
08:30			Õ		1		1		20:30				1		ō		1	
08:45			2	2	12	14	14	16	20:45				1	3	0	2	1	5
09:00			0		0		0		21:00				0		0		0	
09:15			0		0		0		21:15				0		0		0	
09:30			0		0	2	0	2	21:30				0		0		0	
10:00			0		2		2	3	22:00				0		0		0	
10:15			Ő		5		5		22:15				õ		Ő		Ő	
10:30			4		5		9		22:30				0		0		0	
10:45	ļ		1	5	7	19	8	24	22:45				0		0		0	
11:00			1		3		4		23:00				0		0		0	
11:15			1		5		6		23:15				0		0		0	
11:30			3 1	6	1	19	10	25	23:30				0		0		0	
TOTALS			-	13	-	55		68	TOTALS				0	113		68	Ū	181
SPLIT %				19.1%		80.9%		27.3%	SPLIT %					62.4%		37.6%		72.7%
					NB		SB		EB		WB						T	otal
	DAILTI	UTALS			0		0		126		123						2	49
AM Peak Hour				11:45		10:45		11:45	PM Peak Hour					16:15		12:15		12:15
AM Pk Volume				15		22		33	PM Pk Volume					27		22		42
Pk Hr Factor				0.625		0.786		0.750	Pk Hr Factor					0.482		0.786		0.808
7 - 9 Volume				2		14		16	4 - 6 Volume					39		3		42
7 - 9 Peak Hour				00:80		08:00		08:00	4 - 6 Peak Hour					16:15		16:00		16:15

0.286 Pk Hr Factor

0.250

Prepared by NDS/ATD VOLUME

Duckhorn Vineyards Dwy N/O Lodi Ln

Day: Monday Date: 10/21/2019

City: S	t Helena
Project #: C	A19_8531_001

	DAILY T	OTALS		_	NB		SB		EB		WB						T	otal
					0		0		136		135						2	.71
AM Period	NB	SB	EB		WB		TO	TAL	PM Period	NB		SB	EB		WB		TC	TAL
00:00			0		0		0		12:00 12:15				3		3 4		6 7	
00:30			0		0		0		12:30				5		1		6	
00:45			0		0		0		12:45				7	18	4	12	11	30
01:00			0		0		0		13:00				2		4		6	
01:15			0		0		0		13:30				3		3		6	
01:45			0		0		0		13:45				0	8	2	16	2	24
02:00			0		0		0		14:00				0		5		5	
02:15			1		0		1		14:15 14:30				5		3		8	
02:45			0	1	0		0	1	14:45				7	13	4	14	11	27
03:00			0		0		0		15:00				5		4		9	
03:15			0		0		0		15:15				8		4		12	
03:30			0		0		0		15:30 15:45				5	20	3	15	8	25
03:43			0		0		0		16:00				7	20	0	15	7	
04:15			0		0		0		16:15				4		2		6	
04:30			0		1	-	1		16:30				8		2		10	
04:45			0		1	2	1	2	16:45				4	23	2	6	6	29
05:00			1		0		1		17:15				2		0		2	
05:30			ō		1		1		17:30				3		Ő		3	
05:45			0	2	1	2	1	4	17:45				4	17	0	2	4	19
06:00			4		1		5		18:00 18:15				3		0		3	
06:15			0		3		3		18:30				1		0		2	
06:45			0	4	7	11	7	15	18:45				0	5	0	1	0	6
07:00			1		4		5		19:00				0		0		0	
07:15			0		0		0		19:15				0		0		0	
07:30			0	2	2	7	3 1	9	19:30				1	1	0		1	1
08:00			0	-	2	,	2	,	20:00				0	-	1		1	
08:15			2		3		5		20:15				1		0		1	
08:30			0	2	3	15	3	10	20:30				0	1	0	1	0	2
08:45			0	3	/	15	8	18	20:45				0	1	0	1	0	Z
09:15			2		Ō		2		21:15				Ő		Ő		Ő	
09:30			0		3		3		21:30				0		0		0	
09:45			0	2	1	5	1	7	21:45				1	1	0		1	1
10:00			2		4		ь 4		22:00				0		0		0	
10:30			0		4		4		22:30				Ő		Ő		Ő	
10:45			1	5	2	12	3	17	22:45				0		0		0	
11:00			2		3		5		23:00				0		0		0	
11:15			1		∠ 7		3		23:30				0		0		0	
11:45			6	10	2	14	8	24	23:45				Ő		Ő		0	
TOTALS				29		68		97	TOTALS					107		67		174
SPLIT %				29.9%		70.1%		35.8%	SPLIT %					61.5%		38.5%		64.2%
		OTALS			NB		SB		EB		WB						Т	otal
		OTALS			0		0		136		135						2	.71
AM Peak Hour				11:45		11:30		11:30	PM Peak Hour					14:45		12:45		14:45
AM Pk Volume				17		16		29	PM Pk Volume					25		18		40
Pk Hr Factor				0.708		0.571		0.906	Pk Hr Factor					0.781		0.643		0.833
7 - 9 Volume				5		22		27	4 - 6 Volume					40		8		48
7 - 9 Peak Hour				07:30		08:00		08:00	4 - 6 Peak Hour					16:15		16:15		16:15
Pk Hr Factor				0.375		0.536		0,563	Pk Hr Factor					0,750		1.000		0,800
	0.000	0.000		2.373		2.355						0.00		2.755		2.000		

Prepared by NDS/ATD **VOLUME** Duckhorn Vineyards Dwy N/O Lodi Ln

Day: Tuesday Date: 10/22/2019

City:	St Hel	ena	
Project #:	CA19_	8531	001

	DAILY TOTALS		-	NB		SB		EB		WB						T	otal 256
	ND (D	50		14/2		TO	TAI	DIA Devied		152	6.0	50		14/5		-	30
AIVI Period	NB SB	EB 0		0		0	TAL	12:00	NB		SB	EB 2		2 WB		4	TAL
00:15		Ő		Ő		Ő		12:15				7		5		12	
00:30		0		0		0		12:30				1	45	4	10	5	27
00:45		0		0		0		12:45				5	15	1 7	12	6 8	27
01:15		0		Ő		0		13:15				2		4		6	
01:30		0		0		0		13:30				2	_	3		5	
01:45		0		0		0		13:45 14:00				2	7	2	19	7	26
02:00		0		0		0		14:15				4		5 1		2	
02:30		0		0		0		14:30				2		2		4	
02:45		0		0		0		14:45				5	12	2	8	7	20
03:00		0		0		0		15:15				2		3		5	
03:30		0		Ő		0		15:30				13		3		16	
03:45		0		0		0		15:45				4	19	0	8	4	27
04:00		0		0		0		16:00 16:15				10		1		11	
04:15		0		0		0		16:30				4		1		9	
04:45		1	1	0		1	1	16:45				5	27	0	3	5	30
05:00		0		1		1		17:00				6		2		8	
05:15		1		0		1		17:15				0 3		0		0 3	
05:45		0	1	õ	1	0	2	17:45				0	9	0	2	0	11
06:00		0		1		1		18:00				0		0		0	
06:15		1		1		2		18:15				0		0		0	
06:30		0	1	5 8	13	5 8	14	18:45				0		0		0	
07:00		1		6		7		19:00				0		0		0	
07:15		3		2		5		19:15				0		0		0	
07:30		2	7	2	11	4	10	19:30 19:45				0		1	2	1	2
08:00		1	,	2		3	10	20:00				2		0	2	2	2
08:15		0		3		3		20:15				1		0		1	
08:30		0	1	2	12	2	14	20:30				0	2	0		0	2
08:45		1	1	4	13	5	14	20:45				0	3	0		0	
09:15		0		3		3		21:15				0		Ő		0	
09:30		1		2		3		21:30				0		0		0	
09:45		0	2	6	15	5	17	21:45				0		0		0	
10:00		1		5		6		22:00				0		0		0	
10:30		2		0		2		22:30				0		0		0	
10:45		1	6	2	10	3	16	22:45				0		0		0	
11:00		2		9		11		23:00				U N		0		0	
11:30		5		2		7		23:30				Ő		0		0	
11:45		2	13	1	15	3	28	23:45				0		0		0	
TOTALS			32		78		110	TOTALS					92		54		146
SPLIT %			29.1%		70.9%		43.0%	SPLIT %					63.0%		37.0%		57.0%
	DAILY TOTALS			NB		SB		EB		WB						Т	otal
				0		0		124		132						2	56
AM Peak Hour			11:30		06:30		10:45	PM Peak Hour					15:30		13:00		15:30
AM Pk Volume			16		19		28	PM Pk Volume					31		19		36
Pk Hr Factor			0.571		0.594		0.636	Pk Hr Factor					0.596		0.679		0.563
7 - 9 Volume			8		24		32	4 - 6 Volume					36		5		41
7 - 9 Peak Hour			07:00		12		10	4 - 6 Peak Hour					16:00		16:15		16:00
Pk Hr Factor			0.583		0.542		0.643	Pk Hr Factor					0.675		4		0.682

Prepared by NDS/ATD **VOLUME** Duckhorn Vineyards Dwy N/O Lodi Ln

Day: Wednesday Date: 10/23/2019

Pk Hr Factor

City:	St Hel	ena	
Project #:	CA19_	8531	001

0.596

0.333

0.531

		OTALS			NB		SB		EB		WB						Т	otal
	DAILTI	UTALS			0		0		125		130						2	55
AM Period	NB	SB	EB		WB		TO	TAL	PM Period	NB		SB	EB		WB		тс	TAL
00:00			0		0		0		12:00				5		3		8	
00:15			0		0		0		12:15				1		1		2	
00:45			1	2	0		1	2	12:45				7	14	6	13	13	27
01:00			0	-	0		0		13:00				4		3		7	
01:15			0		0		0		13:15				5		4		9	
01:30			0		0		0		13:30				4	. –	3		7	
01:45			0		0		0		13:45				4	1/	2	12	6	29
02:00			0		0		0		14:00				5 1		2		3	
02:30			Ő		Õ		Ő		14:30				4		4		8	
02:45			0		2	2	2	2	14:45				1	9	5	17	6	26
03:00			0		0		0		15:00				4		2		6	
03:15			2		0		2		15:15				5		4		9	
03:30			0	р	0		0	2	15:30				5	22	2	0	8 7	20
03:43			0	2	0		0	2	16:00				1	22	1	- 0	2	30
04:15			Ő		Õ		Ő		16:15				13		3		16	
04:30			0		0		0		16:30				9		0		9	
04:45			0		2	2	2	2	16:45				6	29	0	4	6	33
05:00			0		0		0		17:00				3		0		3	
05:15			0		0		0		17:15				1		0		1	
05:30			0		1	1	1	1	17:45				1	6	0		1	6
06:00			0		1	-	1		18:00				0	0	0		0	
06:15			0		0		0		18:15				1		1		2	
06:30			0		1		1		18:30				0		0		0	
06:45			0		6	8	6	8	18:45				0	1	0	1	0	2
07:00			0		6		6		19:00				0		0		0	
07:15			1		3 1		3		19:15				0		0		0	
07:45			1	2	1	11	2	13	19:45				0		0		0	
08:00			0	-	1		1		20:00				0		0		0	
08:15			1		2		3		20:15				0		0		0	
08:30			1		4		5		20:30				0		0		0	
08:45			0	2	3	10	3	12	20:45				1	1	0		1	1
09:00			1		5		6		21:00				0		0		0	
09:30			1		2		3		21:30				0		0		0	
09:45			3	5	3	10	6	15	21:45				õ		Ő		Ő	
10:00			1		4		5		22:00				0		0		0	
10:15			1		3		4		22:15				0		0		0	
10:30			1	c	2		3	20	22:30				0		0		0	
10:45			3	6	5	14	8	20	22:45				0		0		0	
11:15			2		5		7		23:15				0		0		0	
11:30			3		1		4		23:30				Ő		Õ		Ő	
11:45			1	7	5	17	6	24	23:45				0		0		0	
TOTALS				26		75		101	TOTALS					99		55		154
SPLIT %				25.7%		74.3%		39.6%	SPLIT %					64.3%		35.7%		60.4%
		OTALS			NB		SB		EB		WB						Т	otal
					0		0		125		130						2	255
AM Pock Hours				11.15		10.20		10-45	PM Peak Hour					16.15		14.00		12-45
AM Pk Volumo				11.15		10.50		26	PM Pk Volume					21		14.00		36
Pk Hr Factor				0.550		0.750		0.813	Pk Hr Factor					0.596		0.708		0,692
7 - 9 Volume	0	0		4		21		25	4 - 6 Volume		0	0		35		4		39
7 - 9 Peak Hour				07:30		07:00		07:00	4 - 6 Peak Hour					16:15		16:00		16:15
7 9 Pk Volumo				2		11		12						21		4		24

0.542 Pk Hr Factor

0.750

Prepared by NDS/ATD VOLUME

Duckhorn Vineyards Dwy N/O Lodi Ln

Day: Thursday **Date:** 10/24/2019

7 - 9 Pk Volume

Pk Hr Factor

4

1.000

12

0.375

16

0.444

4 - 6 Pk Volume

Pk Hr Factor

City:	St Hel	ena	
Project #:	CA19_	8531	001

33

0.750

4

0.500

37

DAILY TOTALS 0 125 126 251 AM Period NB 5B EB WB TOTAL PM Period NB 5B EB WB TOTAL 0000 0 0 0 0 1233 4 2 7 7 0013 0 0 0 1233 4 17 4 16 8 33 0130 0 0 0 1330 1 3 4 17 4 16 8 33 0130 0 0 0 1 1333 5 8 17 4 25 0230 0 1 1 14430 6 1 1 25 1 17 3 4 12 7 33 3 1 10 1 14435 6 2 1 10 12 12 14 12 13 14 12 13 <t< th=""><th></th><th></th><th></th><th></th><th>NB</th><th></th><th>SB</th><th></th><th>EB</th><th></th><th>WB</th><th></th><th></th><th></th><th></th><th></th><th>T</th><th>otal</th></t<>					NB		SB		EB		WB						T	otal
AM Period NB SB EB WD TOTAL PM Period NB SB EB WD TOTAL 0030 0 0 0 1223 3 3 2 3 3 2 3 3 2 3 3 2 3 3 2 3 3 2 3 3 2 3 3 2 3 3 2 3 3 2 3 3 2 3 3 2 3 3 2 3 3 2 3 3 3 3 4 3 3 1 1 0 1 1 3 3 1 1 0 1 1 1 3 3 7 6 7 1		DAILY TOTALS			0		0		125		126						2	251
0000 0015 0033 0 0 12:00 1235 6 7 13 7 0033 0 0 0 12:35 4 3 7 5 3 3 1 7 16 3 3 1 3 4 1 3 4 4 3 4 4 3 3 4 4 3 3 4 4 4 3 3 4 4 4 3 4 4 3 4 4 3 4 4 3 4 4 3 4 4	AM Period	NB SB	EB		WB		TO	TAL	PM Period	NB		SB	EB		WB		тс	DTAL
00:13 00:03 00:03 00:0 0 0 0 0 0 0 0 0 12:30 0 4 0 17 0 4 0 16 0 8 0 3 0 01:00 01:15	00:00		0		0		0		12:00				6		7		13	
0035 0 0 1235 3 17 4 16 3 3 3 17 4 16 3 3 3 17 4 16 3 3 3 17 4 16 3 3 3 17 4 16 3 3 3 17 4 16 3 3 1 3 4 4 18 3 17 4 16 3 3 1 3 4 4 16 3 3 1 3 4 4 16 3 3 17 4 16 3 3 17 4 16 3 3 16 1 3 14 16 3 3 16 11 3 14 16 3 3 3 16 11 11 11 16 33 3 3 17 16 11 13 16 16	00:15	l	0		0		0		12:15	1			4		3			
1130 0 0 1300 1 <th1< th=""> <th1< th=""> 1<td>00:30</td><td></td><td>0</td><td></td><td>0</td><td> </td><td>0</td><td></td><td>12:50</td><td>1</td><td></td><td></td><td>3 4</td><td>17</td><td>2</td><td>16</td><td>5</td><td>33</td></th1<></th1<>	00:30		0		0		0		12:50	1			3 4	17	2	16	5	33
01135 0136 0 0 0 13:35 13:30 1 3 4 0136 1 0 0 13:30 5 8 13 0136 1 0 0 1 1 13:45 1 8 3 17 4 25 02:00 0 0 0 1 14:30 6 5 1 1 1 1 4 25 02:00 0 0 1 1 14:30 6 5 1	01:00		0		0		0		13:00				1		3	10	4	
01:30 0 0 0 13:30 5 8 13 02:45 1 1 1 14:45 18 3 3 6 02:33 0 0 1 14:45 6 5 11 1 02:33 0 0 1 0 1 14:45 6 15 1 11 1 03:30 0 0 1 1 14:45 6 15 5 14 11 2 03:30 0 0 0 15:50 5 2 7 5 2 7 18 3 4 11 3 4 11 3 4 11 3 4 11 3 4 11 3 4 11 3 4 11 3 4 11 3 4 11 3 4 11 3 4 11 3 4 11 3 4 11 3 4 11 3 4 11 3 4	01:15		0		Ō		0		13:15	1			1		3		4	
01:45 1 1 1 1 13:45 1 8 3 17 4 25 02:00 0 0 14:15 6 5 11 20 11 12 11 12 11 12 11 12 11 12 11 12 11 12 11 12 11 12 11 12 11 12 11 12 11 12 11 12 12 13 11 12 12 13 13 11 12 12 13 13 13 13 13 13 13 13 13 13 13 13 13 14 13 13 14 14 13 13 14 16:30 7 11 13 14 13 14 16:30 7 11 13 14 16:30 7 11 14 13 14 16:30 7 11 13 14 13 14 13 14 13 14 13 15 15	01:30	l	0		0	I	0		13:30	1			5		8	ļ	13	
02:00 02:15 02:25 02:35 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	01:45	<u> </u>	1	1	0		1	1	13:45	 			1	8	3	17	4	25
0 0 0 1 0 1	02:00		0		0		0		14:00	1			3		3		6 11	
22.45 0 0 1 0 1 1.445 5 1.4 1.1 29 03.50 0 0 0 1 15.50 5 2 7 03.30 0 0 0 1 15.50 5 2 7 03.45 0 1 0 0 1 15.50 6 21 0 7 6 28 04.00 0 1 1 16.15 7 1 8 0 1 1 16.15 7 1 8 0 1	02:15		0		0 1		1		14:30	1			0		5		1	
0 300 0315 1 0 1 0 1 0 1 0 1 0 1 0 0 15:00 15:15 6 2 7 7 0 0 0 0 15:15 5 2 7 7 2 0 0 1 15:15 5 2 7 7 1 8 0 10 0 1 15:15 7 1 8 0 10 10 10 10 10 10 10 10 10 10 10 11 10 11 11 10 11 11 10 11 10 11 10 11 10 11 10 11 10 11 10 11 10 11 10 11 10 11 10 11 10 11 10 11 10 11 10 11 10 11 10 11 10 11 <th< td=""><td>02:45</td><td></td><td>õ</td><td></td><td>Ō</td><td>1</td><td>Ō</td><td>1</td><td>14:45</td><td>1</td><td></td><td></td><td>6</td><td>15</td><td>5</td><td>14</td><td>11</td><td>29</td></th<>	02:45		õ		Ō	1	Ō	1	14:45	1			6	15	5	14	11	29
03:15 03:30 0 0 15:15 15:45 5 2 7 03:45 0 1 0 0 1 15:35 4 1 7 6 28 04:00 0 1 1 16:00 8 21 0 7 6 28 04:15 0 1 1 2 16:30 7 1 8 04:30 0 1 1 2 16:30 7 1 8 04:45 0 1 1 1 10 1 1 0 1 1 0 1 1 0 1 1 0 1 1 0 1 1 0 1 1 0 1 1 0 1 1 0 1 1 0 1 1 0 1 1 0 1 1 0 1 0 1 1 0 1 0 1 0 1 0 1 0 1 0 0 0	03:00		1	-	0		1		15:00				6		4		10	
03:30 03:45 0 0 0 0 15:30 0 4 0 1 1 5 0 0 0 1 15:30 4 0 1 1 5 0 0 1 1 1 5 1 0 1 1 1 1 1 <th1 1 1 1 1 1</th1 	03:15		0		0		0		15:15	1			5		2		7	
$\begin{array}{c c c c c c c c c c c c c c c c c c c $	03:30	l	0		0	1	0		15:30	1			4		1		5	
04:00 04:15 04:30 0 1 0 1 1 2 1 2 1 16:35 16:35 7 7 1 1 8 8 1 1 3 1 0 1 1 1 3 1 0 1 1 1 3 1 1 1 1 1 1 1 3 1 1 1 1 1 1 1 3 1 1 1 1 1 1 1 3 1 1 1 1 1 <	03:45		0	1	0	!	0	1	15:45	l			6	21	0	7	6	28
04:35 04:35 04:35 04:45 01:45	04:00		0		U 1	1	1		16:00	1			ŏ 7		2 1	ļ	10	
04:45 0 1 3 1 4 16:45 11 33 0 4 11 37 05:15 0 0 0 17:15 1 0 2 0	04:30		1		1		2		16:30	1			7		1		8	
05:00 05:15 2 0 0 17:00 1 2 0 2 0 2 0 2 0 1 <th1< th=""> 1 <th1< th=""></th1<></th1<>	04:45		0	1	1	3	1	4	16:45	1			11	33	0	4	11	37
b5:15 05:30 0 0 17:15 1 1 0 1 05:30 0 2 1 2 1 4 17:30 2 0 2 05:30 0 2 1 2 1 4 17:45 1 6 0 1 6 06:00 0 2 2 18:00 0 0 0 0 06:45 0 6 9 6 9 18:30 0 0 0 0 06:45 0 6 9 6 9 18:45 0	05:00		2		0		2		17:00				2		0		2	
05:30 0 1 1 17:30 2 0 2 05:45 0 2 2 18:00 0 0 0 0 06:00 0 2 2 18:00 0 0 0 0 06:15 0 1 1 18:15 0 1 1 06:45 0 6 9 9 18:35 0 0 0 06:45 1 8 9 19:15 0 0 0 0 0 07:00 1 2 16 19:45 0 0 0 0 0 07:30 1 4 12 2 16 19:45 0 0 0 0 08:00 1 2 3 20:30 0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 0 0 0 0 0 0 </td <td>05:15</td> <td></td> <td>0</td> <td></td> <td>0</td> <td> </td> <td>0</td> <td></td> <td>17:15</td> <td>1</td> <td></td> <td></td> <td>1</td> <td></td> <td>0</td> <td></td> <td>1</td> <td></td>	05:15		0		0		0		17:15	1			1		0		1	
05:45 0 2 1 2 1 1 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 <td>05:30</td> <td></td> <td>0</td> <td></td> <td>1</td> <td>!</td> <td>1</td> <td></td> <td>17:30</td> <td>1</td> <td></td> <td></td> <td>2</td> <td>-</td> <td>0</td> <td></td> <td>2</td> <td>6</td>	05:30		0		1	!	1		17:30	1			2	-	0		2	6
06:00 06:15 0 2 2 1 18:15 0 1 1 06:30 0 0 0 18:35 0 0 1 1 06:45 0 6 9 9 18:45 0 0 1 0 07:00 1 2 3 19:00 0 0 0 0 07:30 1 4 12 16:30 0 0 0 0 0 07:30 1 0 1 2 19:30 0 0 0 0 08:00 1 0 1 20:15 0 0 1 0 1 08:30 0 2 4 8 4 10 20:45 0 1 0 0 09:30 1 2 3 21:30 0 0 0 0 0 0 0 0 0 0 0 <td>05:45</td> <td></td> <td>0</td> <td>2</td> <td>1</td> <td>2</td> <td>1</td> <td>4</td> <td>17:45</td> <td>l</td> <td></td> <td></td> <td>1</td> <td>6</td> <td>0</td> <td></td> <td>1</td> <td>6</td>	05:45		0	2	1	2	1	4	17:45	l			1	6	0		1	6
06:30 06:45 0 1 <th1< th=""> 1 <th1< th=""> <th1<< td=""><td>06:00</td><td></td><td>0</td><td></td><td>2</td><td> </td><td>2</td><td></td><td>18:00</td><td>1</td><td></td><td></td><td>0</td><td></td><td>U 1</td><td></td><td>0</td><td></td></th1<<></th1<></th1<>	06:00		0		2		2		18:00	1			0		U 1		0	
Obs.32 O G 9 18:45 O 1 1 1 07:00 1 2 3 19:00 0	06:30		0		0		0		18:30	1			0		0		0	
07:00 07:15 1 2 3 19:00 19:15 0 <th0< th=""> <th0< th=""></th0<></th0<>	06:45		õ		6	9	6	9	18:45	1			õ		Õ	1	0	1
07:15 07:30 1 8 9 19:35 19:30 0 0 0 0 07:45 1 4 1 12 2 16 19:45 0 <t< td=""><td>07:00</td><td></td><td>1</td><td>-</td><td>2</td><td></td><td>3</td><td></td><td>19:00</td><td></td><td></td><td></td><td>0</td><td></td><td>Ō</td><td></td><td>0</td><td></td></t<>	07:00		1	-	2		3		19:00				0		Ō		0	
07:30 07:35 1 4 1 12 2 16 19:30 19:45 0 0 0 0 08:00 1 4 1 12 2 16 19:45 0 0 0 0 08:00 1 0 2 2 20:15 0 0 1 1 08:35 0 2 4 8 4 10 20:45 0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 <t< td=""><td>07:15</td><td></td><td>1</td><td></td><td>8</td><td> </td><td>9</td><td></td><td>19:15</td><td>1</td><td></td><td></td><td>0</td><td></td><td>0</td><td></td><td>0</td><td></td></t<>	07:15		1		8		9		19:15	1			0		0		0	
O7:45 1 4 1 12 2 16 19:45 0 0 0 0 08:00 1 0 2 2 20:15 0	07:30		1		1		2		19:30	1			0		0		0	
08:00 1 20:00 0 1	07:45		1	4	1	12	2	16	19:45	l			0				0	
08:30 1 2 2 3 20:30 1 0 1 08:45 0 2 4 8 4 10 20:45 0 1 0 1 0 2 09:00 0 0 0 1 0 1 0 1 0	08:00		0		2		2		20:00	1			0		0		0	
08:45 0 2 4 8 4 10 20:45 0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1 <th1< td=""><td>08:30</td><td></td><td>1</td><td></td><td>2</td><td> </td><td>3</td><td></td><td>20:30</td><td>1</td><td></td><td></td><td>1</td><td></td><td>0</td><td></td><td>1</td><td></td></th1<>	08:30		1		2		3		20:30	1			1		0		1	
09:00 09:15 0 0 1 0 1 21:00 21:15 0 <th0< th=""></th0<>	08:45		0	2	4	8	4	10	20:45	I			0	1	Ō	1	0	2
09:15 09:30 1 0 1 21:15 21:30 0 0 0 0 09:45 0 2 1 13 21:30 0 0 0 10:00 1 1 2 22:00 0 0 0 0 10:00 1 1 2 22:00 0 0 0 0 10:15 0 3 3 22:15 0 0 0 0 10:30 1 1 2 22:30 1 0 1 10:45 0 2 2 7 2 9 22:45 0 1 0 1 11:00 1 5 6 23:00 0 0 0 1 11:30 2 2 4 23:30 0 0 0 0 11:45 1 8 11 2 19 23:45 0 0 0 0 11:45 25.8% 74.2% 35.5% SPLIT % 63.0% 37.0	09:00		0		0		0		21:00				0		0		0	
09:30 1 2 3 21:30 0 0 0 0 10:00 1 1 1 1 1 1 0 0 0 0 0 10:00 1 1 1 2 22:00 0 0 0 0 10:30 1 1 2 22:30 1 0 1 1 0 1 10:30 1 1 2 22:30 1 0 1 1 0 1 11:00 1 5 6 23:00 0 0 0 0 1	09:15		1		0		1		21:15	1			0		0		0	
09:45 0 2 11 13 11 15 21:43 0 0 0 0 10:00 1 1 1 2 22:00 0 0 0 0 0 10:15 0 3 3 22:15 0 0 0 0 10:30 1 1 2 23:00 1 0 1 10:45 0 2 7 2 9 22:45 0 1 0 1 11:00 1 5 6 23:00 0 0 0 0 11:15 4 3 7 23:30 0 0 0 0 0 11:45 1 8 1 1 2 19 23:45 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 <	09:30		1	2	2	12	3	15	21:30	1			0		0		0	
10:00 1 1 1 2 10:15 0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1 1 0 1 1 0 1 1 0 1 0 1 1 0 1 1 0 1 1 0 1	09:45		1		11	13	11	15	21:45	<u> </u>			0		0		0	
10:30 1 1 2 22:30 1 0 1 10:45 0 2 2 7 2 9 22:45 0 1 0 1 11:00 1 5 6 23:00 0 0 0 0 11:15 4 3 7 23:15 0 0 0 0 11:30 2 2 4 23:30 0 0 0 0 11:45 1 8 1<11	10:15		0		3		3		22:15	1			0		0		0	
10:45 0 2 2 7 2 9 22:45 0 1 0 0 1 11:00 1 5 6 23:00 0 0 0 0 0 1 11:15 4 3 7 23:15 0 0 0 0 0 11:30 2 2 4 23:30 16:00 16:00 16:00 16:00 16:00 16:00 16:00 16:00 16:00 16:00 16:00 16:00 16:00 <td>10:30</td> <td></td> <td>1</td> <td></td> <td>1</td> <td>1</td> <td>2</td> <td></td> <td>22:30</td> <td>1</td> <td></td> <td></td> <td>1</td> <td></td> <td>Õ</td> <td></td> <td>1</td> <td></td>	10:30		1		1	1	2		22:30	1			1		Õ		1	
11:00 1 5 6 7 23:00 0 0 0 0 11:15 4 3 7 23:15 0 0 0 0 11:30 2 2 4 23:30 0 0 0 0 11:45 1 8 1 1 2 19 23:45 0 0 0 TOTALS 23 66 89 TOTALS 102 60 162 SPLIT % 25.8% 74.2% 35.5% SPLIT % 63.0% 37.0% 64.59 DAILY TOTALS NB SB EB WB MB SB EB WB AM Peak Hour 11:45 06:45 11:45 PM Peak Hour 16:00 13:30 16:00 AM Pk Volume 14 17 27 PM Pk Volume 33 19 37 Pk Hr Factor 0.583 0.531 0.519 Pk Hr Factor 0.750 0.594 0.841 7 - 9 Volume 6 20 26 4 - 6 Volume	10:45		0	2	2	7	2	9	22:45	L			0	1	0		0	1
11:15 4 3 7 23:15 0 0 0 11:30 2 2 4 23:30 0 0 0 0 11:45 1 8 1 11 2 19 23:45 0 0 0 0 TOTALS 23 66 89 TOTALS 102 60 162 SPLIT % 25.8% 74.2% 35.5% SPLIT % 63.0% 37.0% 64.59 DAILY TOTALS NB SB EB WB 251 251 251 AM Peak Hour 11:45 06:45 11:45 PM Peak Hour 16:00 13:30 16:00 AM Peak Hour 14 17 27 PM Pk Volume 33 19 37 Pk Hr Factor 0.583 0.531 0.519 Pk Hr Factor 0.750 0.594 0.841 7 - 9 Volume 6 20 26 4 - 6 Volume 39 4 43 7 - 9 Volume 0.700 07:00 07:00 4 - 6 Volume 39	11:00		1		5		6		23:00	1			0		0		0	
11:30 2 2 4 23:30 0 0 0 0 11:45 1 8 1 1 2 19 23:45 0 0 0 0 0 TOTALS 23 66 89 TOTALS 102 60 162 SPLIT % 25.8% 74.2% 35.5% SPLIT % 63.0% 37.0% 64.59 DAILY TOTALS NB SB EB WB VB 74.2%	11:15		4		3		7		23:15	1			0		0		0	
11:45 1 5 1 11 2 19 23:45 0 0 0 0 0 TOTALS 23 66 89 TOTALS 102 60 162 SPLIT % 25.8% 74.2% 35.5% SPLIT % 63.0% 37.0% 64.59 DAILY TOTALS NB SB EB WB VB Total AM Peak Hour 11:45 06:45 11:45 PM Peak Hour 16:00 13:30 16:00 AM Peak Hour 14 17 27 PM Pk Volume 33 19 37 Pk Hr Factor 0.583 0.531 0.519 Pk Hr Factor 0.750 0.594 0.841 7 - 9 Volume 6 20 26 4 - 6 Volume 39 4 43 7 - 8 Peak Hour 0.700 0.700 0.700 4 - 6 Volume 16:00 15:00 16:00	11:30		2	0	2	11	4	10	23:30	1			0		0		0	
NB SB EB WB Total O 0 125 126 102	11:45		1	0 22		<u> </u>	2	19	25:45 TOTALS				U	102	0	60	0	162
SPLIT % 25.5% 74.2% 35.5% SPLIT % 05.0% 57.0% 04.3% DAILY TOTALS NB SB EB WB VB Total AM Peak Hour 11:45 06:45 11:45 PM Peak Hour 16:00 13:30 16:00 AM Peak Hour 14 17 27 PM Peak Hour 16:00 13:30 16:00 PK Hr Factor 0.583 0.531 0.519 PK Hr Factor 0.750 0.594 0.841 7 - 9 Volume 6 20 26 4 - 6 Volume 39 4 43 7 - 8 Peak Hour 16:00 15:00 16:00 16:00 16:00 16:00				25		74.2%		25.5%	SPLIT %					62.0%		27.0%		64.5%
NB SB EB WB Total 0 0 125 126 126 1251 AM Peak Hour 11:45 06:45 11:45 PM Peak Hour 16:00 13:30 16:00 AM Pk Volume 14 17 27 PM Pk Volume 33 19 37 Pk Hr Factor 0.583 0.531 0.519 Pk Hr Factor 0.750 0.594 0.841 7 - 9 Volume 6 20 26 4 - 6 Volume 39 4 43 7 - 8 Peak Hour 07:00 07:00 07:00 4 - 6 Peak Hour 16:00 15:00 16:00	SPLIT %			25.8%		74.2%		35.5%	SPLIT %					63.0%		37.0%		64.5%
O O 125 126 251 AM Peak Hour 11:45 06:45 11:45 PM Peak Hour 16:00 13:30 16:00 AM Pk Volume 14 17 27 PM Pk Volume 33 19 37 Pk Hr Factor 0.583 0.531 0.519 Pk Hr Factor 0.750 0.594 0.841 7 - 9 Volume 6 20 26 4 - 6 Volume 39 4 43 7 - 8 Peak Hour 07:00 07:00 07:00 4 - 6 Peak Hour 16:00 16:00 16:00 16:00 16:00		ΠΑΙΙ Υ ΤΟΤΑΙ S			NB		SB		EB		WB						T	otal
AM Peak Hour 11:45 06:45 11:45 PM Peak Hour 16:00 13:30 16:00 AM Pk Volume 14 17 27 PM Pk Volume 33 19 37 Pk Hr Factor 0.583 0.531 0.519 Pk Hr Factor 0.750 0.594 0.841 7 - 9 Volume 6 20 26 4 - 6 Volume 39 4 43 7 - 9 Pask Hour 07:00 07:00 07:00 4 - 6 Pask Hour 16:00 16:00 16:00		Briter Formes			0		0	1	125		126					<u> </u>	2	251
AM Peak Hour 11:45 06:45 11:45 PM Peak Hour 16:00 13:30 16:00 AM Pk Volume 14 17 27 PM Peak Hour 33 19 37 Pk Hr Factor 0.583 0.531 0.519 Pk Hr Factor 0.750 0.594 0.841 7 - 9 Volume 6 20 26 4 - 6 Volume 39 4 43 7 - 9 Volume 0.7:00 0.7:00 0.7:00 4 - 6 Peak Hour 16:00 16:00 16:00																		
AM Pk Volume 14 17 27 PW PK Volume 33 19 37 Pk Hr Factor 0.583 0.531 0.519 Pk Hr Factor 0.750 0.594 0.841 7 - 9 Volume 6 20 26 4 - 6 Volume 39 4 43 7 - 9 Posk Hour 07:00 07:00 07:00 4 - 6 Posk Hour 16:00 16:00 16:00	AM Peak Hour			11:45		06:45		11:45	PM Peak Hour					16:00		13:30		16:00
PKH ractor 0.53 0.51 0.51 0.51 0.750 0.750 0.594 0.841 7 - 9 Volume 0 6 20 26 4 - 6 Volume 39 4 43 7 - 9 Volume 0.700 0.700 4 - 6 Peak Hour 16:00 16:00 16:00	AM Pk Volume			14		1/		27	Pivi PK Volume					33		19		37
7 - 9 Volume 0 0 0 20 20 4 - 5 Volume 0 39 4 43				0.583		0.531		0.519			0	0		0.750		0.594		0.841
	7 - 9 Volume			07:00		20		20	4 - 6 Peak Hour					39 16:00		4 16:00		45 16:00

Prepared by NDS/ATD VOLUME Duckhorn Vineyards Dwy N/O Lodi Ln

Day: Friday Date: 10/25/2019

City:	St Hel	ena	
Project #:	CA19_	_8531_00	1

	DAILY TO	OTALS		_	NB		SB		EB		WB						To	otal
					U		U		581 501		194	0.5		_				79
AM Period	NB	SB	EB		WB		10	IAL	12:00	NB		SB	2 EB		WB		7	TAL
00:15			0		0		0		12:15				10		5		, 15	
00:30			0		0		0		12:30				6		8		14	
00:45			0		0		0		12:45				7	25	8	26	15	51
01:00			0		0		0		13:00				4		3		/	
01:30			0		0		0		13:30				3		6		9	
01:45			0		0		0		13:45				7	19	7	22	14	41
02:00			0		0		0		14:00				7		3		10	
02:15			0		0		0		14:15				2		7		9	
02:30			1	1	0		1	1	14:30				5	23	10	31	16 19	54
03:00			0	-	0		0		15:00				3	25	7	51	10	
03:15			0		0		0		15:15				3		3		6	
03:30			0		0		0		15:30				12		2		14	
03:45			0		0		0		15:45				3	21	0	12	3	33
04:00			0		0		0		16:15				0 6		5 0		6	
04:10			õ		õ		Ő		16:30				10		1		11	
04:45			0		0		0		16:45				9	33	0	4	9	37
05:00			1		0		1		17:00				7		0		7	
05:15			0		0		0		17:15				8		0		8	
05:45			0	1	4	4	4	5	17:45				3	19	0	1	3	20
06:00			0		0		0		18:00				2		0		2	
06:15			0		1		1		18:15				0		1		1	
06:30			0		5	15	5	15	18:30				0	2	0	1	0	2
06:45			3		9	15	9	15	18:45				0	2	0	1	0	3
07:15			1		1		2		19:15				0		0		Ő	
07:30			0		0		0		19:30				0		0		0	
07:45			0	4	1	6	1	10	19:45				0		0		0	
08:00			0		3		3		20:00				0		0		0	
08:15			1		2 5		6		20:15				1		0		1	
08:45			0	1	9	19	9	20	20:45				0	1	0	1	0	2
09:00			1		3		4		21:00				0		0		0	
09:15			2		1		3		21:15				0		0		0	
09:30			0	4	2	12	3	16	21:50				0		0		0	
10:00			2		5	12	7	10	22:00				0		0		0	
10:15			2		4		6		22:15				0		0		0	
10:30			3		2	45	5	~ ~	22:30				1		0		1	
10:45			2	9	4	15	6 7	24	22:45				0	1	0		0	1
11:15			2 6		9		15		23:15				0		0		0	
11:30			4		5		9		23:30				0		0		0	
11:45			9	21	6	25	15	46	23:45				0		0		0	
TOTALS				41		96		137	TOTALS					144		98		242
SPLIT %				29.9%		70.1%		36.1%	SPLIT %					59.5%		40.5%		63.9%
					NB		SB		EB		WB						T	otal
		51425			0		0		185		194						3	79
AM Peak Hour				11:45		11:00		11:45	PM Peak Hour					16:30		14:15		14:00
AM Pk Volume				27		25		51	PM Pk Volume					34		35		54
Pk Hr Factor				0.675		0.694		0.850	Pk Hr Factor					0.850		0.795		0.711
7 - 9 Volume	0	0		5		25		30	4 - 6 Volume		0	0		52		5		57
7 - 9 Peak Hour				07:00		08:00		08:00	4 - 6 Peak Hour					16:30		16:00		16:00
7 - 9 Pk Volume				4		19		20	4 - 6 Pk Volume					34		4		37
Pk Hr Factor	0.000	0.000		0.333		0.528		0.556	PK Hr Factor		0.000	0.0	00	0.850		0.333		0.841

Prepared by NDS/ATD VOLUME

Duckhorn Vineyards Dwy N/O Lodi Ln

Day: Saturday Date: 10/26/2019

City:	St Hel	ena	
Project #:	CA19_	8531	001

		TALC			NB		SB		EB		WB						Тс	otal
	DAILT	IUTALS		L	0		0		178		185						3	63
AM Period	NB	SB	EB		WB		то	TAL	PM Period	NB		SB	EB		WB		TO	TAL
00:00			0		0		0		12:00				10		5		15	
00:15			0		0		0		12:15				7		6		13	
00:30			0		0		0		12:30				6 1	24	6	24	12	10
01:00			0		0		0		13:00				1	24	6	24	7	40
01:15			Ő		Õ		Ő		13:15				8		2		10	
01:30			0		0		0		13:30				6		2		8	
01:45			1	1	0		1	1	13:45				5	20	9	19	14	39
02:00			0		0		0		14:00				/		10		1/	
02:30			0		0		0		14:30				6		6		12	
02:45			0		2	2	2	2	14:45				8	25	1	23	9	48
03:00			0		2		2		15:00				4		9		13	
03:15			2		0		2		15:15				5		4		9	
03:30			2	5	1	3	3 1	Q	15:30				5 12	28	0	17	6 17	45
04:00			0	5	0	5	0	0	16:00				9	20	2	1/	11	45
04:15			0		1		1		16:15				5		1		6	
04:30			0		0		0		16:30				6		2		8	
04:45			0		1	2	1	2	16:45				11	31	5	10	16	41
05:00			0		0		0		17:00				1		5		6	
05:15			4		0		0		17:30				2		0		5 0	
05:45			0	4	õ	1	Ő	5	17:45				Ő	3	õ	6	õ	9
06:00			0		0		0		18:00				0		0		0	
06:15			0		0		0		18:15				2		0		2	
06:30			0		2	-	2	-	18:30				1	0	0		1	0
06:45			0		3	5	3	5	18:45				6	9	0		6	9
07:15			0		0		0		19:15				0		0		0	
07:30			Ő		õ		Ő		19:30				Ő		õ		õ	
07:45			0		1	3	1	3	19:45				0	4	0		0	4
08:00			0		1		1		20:00				0		0		0	
08:15			0		2		2		20:15				0		0		0	
08:45			0		3 7	19	9 7	19	20:30				0		0		0	
09:00			0		2	10	2		21:00				0		0		0	
09:15			0		1		1		21:15				0		0		0	
09:30			0		2		2		21:30				1		0		1	
09:45			0		4	9	4	9	21:45				0	1	0		0	1
10:00			5 1		5		9		22:00				0		0		0	
10:30			2		5		7		22:30				Ő		õ		õ	
10:45			1	7	4	20	5	27	22:45				0		0		0	
11:00			3		6		9		23:00				0		0	Ţ	0	
11:15			2		4		6		23:15				0		0		0	
11:30 11:45			4	16	5	22	9 14	38	23:45				0		0		0	
TOTALS			,	33		86	1-1	119	TOTALS					145	<u> </u>	99	<u> </u>	244
SPLIT %				27.7%		72.3%		32.8%	SPLIT %					59.4%		40.6%		67.2%
					NP.		CD.		ED		M/P						-7-	atal
	DAILY	TOTALS		-	0		30		ED		185						2	63
					- 0				1/0		105						J	0.5-
AM Peak Hour				11:45		11:45		11:45	PM Peak Hour					15:15		13:45		13:45
AM Pk Volume				30		24		54	PM Pk Volume					33		31		53
Pk Hr Factor			_	0.750	_	0.857	_	0.900	Pk Hr Factor		0			0.635	_	0.775	_	0.779
7 - 9 Volume						22		22	4 - 6 Volume					34		16.15		50
7 - 9 Peak Hour						10		10	4 - 6 Pk Volumo					21		10:15		10:00
Pk Hr Factor						0 528		0.528	Pk Hr Factor					0 705		0.650		0.641
	0.000	0.000		0.000	_	0.020	_	0.020				0.000		0.705		0.000		

Day: Friday Date: 10/18/2019

Pk Hr Factor

City:	St Hele	ena	
Project #:	CA19_	8531	002

0.667

0.761

0.712

					NB		SB		EB		WB						T	otal
					0		0		781		953						1,	734
AM Period	NB	SB	EB		WB		то	TAL	PM Period	NB		SB	EB		WB		тс	DTAL
00:00			0		0		0		12:00				15 15		19 17	ļ	34	
00:30			0		2	- I	0		12:30				12		18	1	30	
00:45			1	2	õ	2	1	4	12:45				16	58	18	72	34	130
01:00			2		3		5		13:00				14		21		35	
01:15			3		2		5		13:15				18		29	ļ	47	
01:30			0	-	0	!	0		13:30				20		28		48	
01:45			2	7	3	8	5	15	13:45				23	75	23	101	46	176
02:00			1		1		2		14:15				1/ 22		23 35	1	40 57	
02:30			Ō		Ō		Ō		14:30				20		51	ļ	71	
02:45			0	1	0	1	0	2	14:45				23	82	51	160	74	242
03:00			0		1		1		15:00		-		17		23		40	
03:15			0		0		0		15:15				23		21	ļ	44	
03:30			1	2	1	, !	2	-	15:30				16	07	28	102	44	190
03:45			2		2	3	4	5	15:45				31 74	87	3U 22	102	46	189
04:00			2		2		4		16:15				8		9	ļ	17	
04:30			0		0		0		16:30				20		21	ļ	41	
04:45			3	7	3	7	6	14	16:45				12	64	15	67	27	131
05:00			0		0		0		17:00				15		15	ļ	30	
05:15			4		4		8		17:15				11		14	ļ	25	
05:30			4	10	3	9	4	19	17:50				5 6	37	/ 5	41	12	78
06:00			7		6		13	15	18:00				8	37	5	41	13	/0
06:15			6		5		11		18:15				12		12	ļ	24	
06:30			8		8		16		18:30				0		4	1	4	
06:45			14	35	10	29	24	64	18:45				1	21	0	21	1	42
07:00			5		5		10		19:00				6		5	ļ	11	
07:15			12		7		19		19:15				/		5	ļ	12	
07:45			5 11	33	, 17	36	28	69	19:45				3	21	э 5	18	8	39
08:00			14		22		36	0.5	20:00				2	<u> </u>	3		5	
08:15			16		16		32		20:15				3		4	ļ	7	
08:30			9		12		21		20:30				2		2	ļ	4	
08:45			14	53	16	66	30	119	20:45				2	9	2	11	4	20
09:00			13		15		28		21:00				2		1	ļ	3	
00:12			10		15 11		25		21:15				1 1		0	ļ	2	
09:45			5	38	8	49	13	87	21:45				2	6	0	2	2	8
10:00			14		12		26		22:00				6		4		10	
10:15			17		20		37		22:15				0		0		0	
10:30			17		20		37		22:30				2		1		3	
10:45			18	66	21	73	39	139	22:45				2	10	1	6	3	16
11:00			13		21		34		23:00				1		0		1	
11:15			13 Q		10		29		23:15				1		1		2	
11:45			20	55	17	68	37	123	23:45				Ō	2	0	1	0	3
TOTALS				309		351		660	TOTALS					472		602		1074
SPLIT %				46.8%		53.2%		38.1%	SPLIT %					43.9%		56.1%		61.9%
					NB		SB		ER		W/R						T	otal
	DAILY TO	DTALS			0		3B 0		781		953						1,	.734
AM Peak Hour				10:00		10:15		10:15	PM Peak Hour					15:15		14:00		14:00
AM Pk Volume				66		82		147	PM Pk Volume					94		160		242
Pk Hr Factor	0			0.917		0.976		0.942	PK Hr Factor		0			0.758		0.784		0.818
7 - 9 Volume				86		102		188	4 - 6 Volume					101		108		209
7 - 9 Peak Hour				08:00		07:45		110	4 - 6 Peak Hour					16:00		16:00		10:00
7 - 9 PK Volume				22		07		119	4-0PK Volume					04		07		121

Pk Hr Factor

0.826

0.828

Prepared by NDS/ATD VOLUME

Lodi Ln W/O Duckhorn Vineyards Dwy

Day: Saturday Date: 10/19/2019

7 - 9 Peak Hour

7 - 9 Pk Volume

Pk Hr Factor

08:00

48

0.706

08:00

43

0.768

08:00

91

0.734

4 - 6 Peak Hour

4 - 6 Pk Volume

Pk Hr Factor

City:	St Hel	ena	
Project #:	CA19	8531	002

16:00

58

0.690

16:00

61

0.726

16:00

119

	DAILY TOTALS			NB		SB		EB	WE	3					T	otal
				0		0		625	674	4					1,	299
AM Period	NB SB	EB		WB		TC	DTAL	PM Period	NB	SB	EB		WB		TC	TAL
00:00		2		1		3		12:00			13 16		17 26		30 42	
00:30		0		0		0		12:30			21		27		48	
00:45		0	3	0	2	0	5	12:45			14	64	18	88	32	152
01:00		0		0		0		13:00			22		19 24		41 38	
01:30		0		0		0		13:30			14		17		31	
01:45		1	1	1	1	2	2	13:45			15	65	19	79	34	144
02:00		0		0		0		14:00			14		19		33	
02:15		0		1		1		14:15			12		12		24 25	
02:45		Ő		Ō	1	0	1	14:45			8	47	14	57	22	104
03:00		0		0		0		15:00			19		17		36	
03:15		0		1		1		15:15			14		12		26	
03:45		0		0	1	0	1	15:45			17	67	14	60	54 31	127
04:00		0		0		0		16:00			21		21		42	
04:15		0		0		0		16:15			15		12		27	
04:30		0		0		0		16:30 16:45			8 1/1	58	14 14	61	22	110
05:00		0		0		0		17:00			14	58	10	01	22	115
05:15		0		0		0		17:15			15		12		27	
05:30		2	2	1	2	3	-	17:30			10	40	6	22	16	70
05:45		1	3	2	2	2	5	17:45			<u> </u>	40	5	33	8 14	/3
06:15		1		1		2		18:15			6		8		14	
06:30		4		3		7		18:30			3		3		6	
06:45		7	13	9	15	16	28	18:45			5	23	4	20	9	43
07:15		2		1		3		19:15			8 4		3		7	
07:30		3		4		7		19:30			7		5		12	
07:45		5	13	7	15	12	28	19:45			5	24	5	16	10	40
08:00		6 10		8		14 17		20:00			/		6 3		13	
08:30		15		, 14		29		20:30			0		0		Ő	
08:45		17	48	14	43	31	91	20:45			5	15	5	14	10	29
09:00		8		9		17		21:00 21:15			4		3		7	
09:15		9 6		8		14		21:30			4 1		5 0		1	
09:45		9	32	11	41	20	73	21:45			1	10	Ō	6	1	16
10:00		10		7		17		22:00			1		2		3	
10:15		8 11		12 18		20		22:15			U 2		U 1		2	
10:45		10	39	11	48	21	87	22:45			1	4	2	5	3	9
11:00		9		9		18		23:00			0		0		0	
11:15		15		16 12		31		23:15 23:30			2		2		4	
11:45		14	52	23	60	37	112	23:45			1	4	1	6	2	10
TOTALS			204		229		433	TOTALS				421		445		866
SPLIT %			47.1%		52.9%		33.3%	SPLIT %				48.6%		51.4%		66.7%
				NB-		SB		FR	\\/E	3					т	otal
	DAILY TOTALS			0		0		625	674	4					1,	299
AM Deck Har			11.45		11.45		11.45	PM Posk Hours				12.15		12.15		13.45
AN Peak Hour			64		93		11:45	PM Pk Volume				73		90		12:15
Pk Hr Factor			0.762		0.861		0.818	Pk Hr Factor				0.830		0.833		0.849
7 - 9 Volume	0 0		61		58		119	4 - 6 Volume	0		0	98		94		192

Day: Sunday Date: 10/20/2019

7 - 9 Pk Volume Pk Hr Factor 18 0.500 15

0.625

32

0.667

4 - 6 Pk Volume

Pk Hr Factor

City:	St Hel	ena	
Project #:	CA19_	8531	002

32

0.800

32

0.800

61

				NB		SB		EB	w	B					T	otal
	DAILY TOTALS			0		0		348	35	3					7	/01
AM Period	NB SB	EB		WB		то	TAL	PM Period	NB	SB	EB		WB		тс	DTAL
00:00		5		4		9		12:00			7		6		13	
00:15	1	0		0				12:15			5		7	1	12	
00:30	1	0	5	2	6	2	11	12:50			ŏ 1/1	34	9 16	38	30	72
01:00	i	0		0	_ <u> </u>	0		13:00			7	_	7	30	14	
01:15	i	2		2		4		13:15			4		9	1	13	
01:30	l l	0		0		0		13:30			9		11	ļ	20	
01:45	<u> </u>	0	2	0	2	0	4	13:45			5	25	7	34	12	59
02:00	l l	0		0		0		14:00			13		11	ļ	24	
02:15	l l	0		0		0		14:15			3		4	ļ	10	
02:30	l l	1	1	U 1	1	2	2	14:50 14:45			9 7	32	9 8	32	18	64
03:00	i		<u> </u>	0		0		15:00			11	32	13	32	24	04
03:15	l l	õ		õ		Õ		15:15			12		12	ļ	24	
03:30	l l	1		1		2		15:30			9		14	ļ	23	
03:45	<u> </u>	0	1	0	1	0	2	15:45			6	38	5	44	11	82
04:00	l l	0		0		0		16:00			5		6	ļ	11	
04:15	I	0		0		0		16:15			3		8	1	11	
04:30	l l	0	1	0	1	0	2	16:30			12	27	10	21	22	50
04:45						2		10:45			7	21		31	14	50
05:15	I	õ		0		Ö		17:15			, 5		4	1	9	
05:30	I	2		2		4		17:30			10		9	1	19	
05:45	I	0	2	0	2	0	4	17:45			10	32	7	27	17	59
06:00		1		0		1		18:00			9		10		19	
06:15	I	0		0		0		18:15			3		2	1	5	
06:30	I	3	_	2	_	5		18:30			3		5	!	8	
06:45		3	7	4	6	/	13	18:45			0	15	<u> </u>	1/	0	32
07:00	I	1		0		1		19:00			2		2	1	4	
07:15	I	2		2		4		19:30			2		0	1	0	
07:45	l l	4	8	2	4	6	12	19:45			1	5	2	5	3	10
08:00		3		6	<u> </u>	9		20:00			2		1	<u> </u>	3	
08:15	I	6		5		11		20:15			1		1	1	2	
08:30	I	0		0		0		20:30			1		0	1	1	
08:45	J	9	18	3	14	12	32	20:45			0	4	2	4	2	8
09:00	I	6		7		13		21:00			4		3	1	7	
09:15	I	1		1		12		21:15			3 1		4	1	1	
09:50	I	/ 8	22	о 6	20	15	42	21:35			1	8	1	8		16
10:00		5		6		11	42	22:00			2	<u> </u>	2		4	
10:15	I	12		8		20		22:15			1		0	1	1	
10:30	i	6		9		15		22:30			1		2	1	3	
10:45	<u> </u>	5	28	3	26	8	54	22:45			3	7	1	5	4	12
11:00	i	8		5		13		23:00			0		0	1	0	
11:15	l l	7		9		16		23:15			1		1	ļ	2	
11:30	l l	3	25	2	22	5	19	23:30			0	1	1		1	2
11:45 TOTALS		/	120		106	14	⁴⁸ 226	Z3:45 TOTALS			0	228		247	0	475
CDUT 0/			52.400		100	<u> </u>	22.0					220		52.00/	<u> </u>	475
SPLIT %			53.1%		46.9%		32.2%	SPLIT %				48.0%		52.0%		67.8%
				NB		SB		EB	w	В					T	otal
	DAILT TOTALS			0		0		348	35	3					7	/01
AM Peak Hour			09:30		09:45		09:45	PM Peak Hour				14:30		14:45		14:45
AM Pk Volume			32		29		60	PM Pk Volume				39		47		86
Pk Hr Factor			0.667		0.806		0.750	Pk Hr Factor				0.813		0.839		0.896
7 - 9 Volume			26		18		44	4 - 6 Volume				59		58		117
7 - 9 Peak Hour			08:00		07:30		08:00	4 - 6 Peak Hour				17:00		16:15		16:15

Day: Monday Date: 10/21/2019

City:	St Helena	
Project #:	CA19_8531_002	

	DAILY TOTALS		-	NB		SB		EB	WB						T (otal 329
AM Deried		ED				т		DM Pariod	ND	CD	ED		VA/D		<u>т</u> ,	
00:00	IND 3D	0		0		0		12:00	ND	30	8		10		18	
00:15		1		1		2		12:15			13		18		31	
00:30		0	1	0	1	0	2	12:30			18 15	54	16 12	56	34 27	110
01:00		0	1	0	1	0	2	13:00			8	54	11	50	19	110
01:15		0		1		1		13:15			10		14		24	
01:30		0		0	1	0	1	13:30 13:45			16 7	/11	18	47	34 11	88
02:00		0		0	1	0	<u> </u>	14:00			20	41	25	47	45	00
02:15		0		0		0		14:15			11		12		23	
02:30		0		0		0		14:30			7	50	7	C 7	14	122
02:45		0		0		0		14:45			18	56	23	67	41 37	123
03:15		õ		õ		Ő		15:15			18		30		48	
03:30		0		0		0	_	15:30			16		14		30	
03:45		1	1	1	1	2	2	15:45 16:00			6	56	15	73	14	129
04:00		0		0		0		16:15			16		15		31	
04:30		0		0		0		16:30			11		15		26	
04:45		1	1	1	2	2	3	16:45			11	47	15	60	26	107
05:00		6		6		12		17:00			13 14		16 12		29 26	
05:30		3		3		6		17:30			15		10		25	
05:45		0	9	0	9	0	18	17:45			10	52	13	51	23	103
06:00		7		8		15		18:00 18:15			4		9		13	
06:15		2		5		5 13		18:30			3		4		7	
06:45		13	30	10	26	23	56	18:45			4	20	3	28	7	48
07:00		11		12		23		19:00			0		0		0	
07:15		14 8		12 10		26 18		19:15 19:30			0 3		0 3		0	
07:45		8	41	15	49	23	90	19:45			4	7	3	6	7	13
08:00		14		25		39		20:00			5		4		9	
08:15		5		9		14		20:15			3		5		8	
08:30		8 9	36	13 10	57	21 19	93	20:30			2	13	2	12	4	25
09:00		9		10	07	19		21:00			3	10	2		5	
09:15		8		9		17		21:15			1		1		2	
09:30		7	34	15 16	50	22	84	21:30 21:45			1	5	1	5	2	10
10:00		13	54	14	50	27	04	22:00			3	5	3	5	6	10
10:15		14		11		25		22:15			1		1		2	
10:30		14	40	16	٢.4	30	102	22:30			1	-	1	-	2	10
10:45		/ 10	48	13	54	20	102	22:45			1	5	1	5	2	10
11:15		6		8		14		23:15			Ō		0		0	
11:30		13		21		34		23:30			1	-	1		2	
11:45 TOTALS		16	45 246	23	63 313	39	108 559	Z3:45			0	358	0	2 412	0	4 770
SPLIT %			44.0%		56.0%		42.1%	SPLIT %				46.5%		53.5%		57.9%
51 211 70			44.070		50.070		421170				_	40.570	_	55.570		571570
	DAILY TOTALS			NB 0		SB 0_		EB 604	WB							otal 329 -
									725						- 1 ,	525
AM Peak Hour			11:45		11:30		11:30	PM Peak Hour				14:45		14:45		14:45
Pk Hr Factor			55 0 764		72 0 783		0.782	Pk Hr Factor				68 0.944		88		156
7 - 9 Volume	0 0		77		106		183	4 - 6 Volume	0	0		99		111		210
7 - 9 Peak Hour			07:15		07:15		07:15	4 - 6 Peak Hour				16:45		16:15		16:15
7 - 9 Pk Volume			44		62		106	4 - 6 Pk Volume				53		61		112
Pk Hr Factor			0.786		0.620		0.679	Pk Hr Factor				0.883		0.953		0.903

Day: Tuesday Date: 10/22/2019

7 - 9 Pk Volume Pk Hr Factor

59 0.670

79

0.637

0.651

Pk Hr Factor

City:	St Hel	ena	
Project #:	CA19_	8531	002

53

0.697

0.942

102

	ΔΑΙΙ Υ ΤΟΤΑΙ S			NB		SB		EB		WB						Т	otal
	BALLET TO TALLO			0		0		590		691						1,	281
AM Period	NB SB	EB		WB		TC	DTAL	PM Period	NB		SB	EB		WB		тс	DTAL
00:00 00:15		1		1		2		12:00 12:15				9 18		18 13		27	
00:30		Ő		0		0		12:30				7		9		16	
00:45		0	1	0	1	0	2	12:45				7	41	11	51	18	92
01:00		0		0		0		13:00				16		14		30	
01:15		0		1		1		13:15				9		14		23	
01:50		0		0	1	0	1	13:45				10	46	12	53	23	99
02:00		0		0	-	0	-	14:00				10		12		22	
02:15		0		0		0		14:15				10		11		21	
02:30		1		1		2	-	14:30				7		16	60	23	4.00
02:45		0	1	0	1	0	2	14:45				15	42	21	60	36	102
03:00		0		0		0		15:15				14		16		23	
03:30		Õ		1		1		15:30				13		12		25	
03:45		2	2	1	2	3	4	15:45				7	41	13	59	20	100
04:00		0		0		0		16:00				10		8		18	
04:15		0		0		0		16:15				7		10		17	
04:30		4	4	4	4	8	8	16:50				0 19	42	13	38	13	80
05:00		4		4	7	8	0	17:00				15	72	12		27	
05:15		4		5		9		17:15				9		11		20	
05:30		4		4		8		17:30				10		13		23	
05:45		2	14	2	15	4	29	17:45				4	38	3	39	7	77
06:00		4		3		5		18:00				6 7		87		14	
06:30		7		8		15		18:30				2		3		5	
06:45		11	25	8	21	19	46	18:45				2	17	4	22	6	39
07:00		7		8		15		19:00				2		4		6	
07:15		11		9		20		19:15				7		5		12	
07:30		1/	30	13	18	20	87	19:30				4	16	3	15	6	21
08:00		22	33	31	40	53	07	20:00				4	10	2	15	6	
08:15		16		17		33		20:15				4		5		9	
08:30		7		12		19		20:30				2		1		3	
08:45		12	57	12	72	24	129	20:45				1	11	1	9	2	20
09:00		12		19		31		21:00				2		2		4	
09:30		10		12		23		21:30				0		0		0	
09:45		19	52	14	63	33	115	21:45				õ	5	Ő	4	Ő	9
10:00		8		10		18		22:00				3		1		4	
10:15		13		12		25		22:15				1		3		4	
10:30		10	11	12	45	22	80	22:30				1	0	1	0	2	10
10:45		10	44	14	45	24	69	23:00				4	9	2	9	3	10
11:15		12		18		30		23:15				1		0		1	
11:30		8		10		18		23:30				1		0		1	
11:45		10	40	15	57	25	97	23:45				0	3	0	2	0	5
TOTALS			279		330		609	TOTALS					311		361		672
SPLIT %			45.8%		54.2%		47.5%	SPLIT %					46.3%		53.7%		52.5%
	DAILY TOTALS			NB		SB		EB		WB						Т	otal
				0		0		590		691						1,	281
AM Peak Hour			07:30		07.30		07.30	PM Peak Hour					16:45		14.30		14.45
AM Pk Volume			59		79		138	PM Pk Volume					53		71		116
Pk Hr Factor			0.670		0.637		0.651	Pk Hr Factor					0.697		0.845		0.806
7 - 9 Volume	0 0		96		120		216	4 - 6 Volume		0	0		80		77		157
7 - 9 Peak Hour			07:30		07:30		07:30	4 - 6 Peak Hour					16:45		16:45		16:45
7 - 9 Pk Volume			59		79		138	4 - 6 Pk Volume					53		49		102

Prepared by NDS/ATD VOLUME

Lodi Ln W/O Duckhorn Vineyards Dwy

Day: Wednesday Date: 10/23/2019

7 - 9 Volume

7 - 9 Peak Hour

7 - 9 Pk Volume

Pk Hr Factor

234

07:45

136

0.919

358

07:15

235

0.725

592

07:15

352

0.746

4 - 6 Volume

4 - 6 Peak Hour

4 - 6 Pk Volume

Pk Hr Factor

City:	St Hel	ena	
Project #:	CA19	8531	002

86

16:00

50

0.625

83

16:45

45

0.703

169

16:00

89

				NB		SB		EB	WB		_				Т	otal
	DAILY TOTALS			0		0		834	1,005						1,	839
AM Period	NB SB	EB		WB		TC	TAL	PM Period	NB	SB	EB		WB		то	TAL
00:00		0		0		0		12:00			14		15		29	
00:15		2		3		5		12:15			18 14		20 15		38 29	
00:45		1	3	1	4	2	7	12:45			18	64	21	71	39	135
01:00		0		0		0		13:00			14		13		27	
01:15		0		0		0		13:15			19		17		36	
01:50		0		0		0		13:45			8	48	8	48	16	96
02:00		0		0		0		14:00			8		16		24	
02:15		0		0		0		14:15			13		17		30	
02:30		0	2	0	2	0	4	14:30			11	16	13	57	24	102
02:45		0	Z	2	Z	4	4	14:45			14	40	17	57	33	103
03:15		1		1		2		15:15			14		17		31	
03:30		1		1		2		15:30			11		15		26	
03:45		0	2	0	2	0	4	15:45			11	52	13	62	24	114
04:00		1		0		1		16:00			14 20		9 12		23	
04:30		0		0		0		16:30			8		9		17	
04:45		9	10	8	8	17	18	16:45			8	50	9	39	17	89
05:00		1		1		2		17:00			10		12		22	
05:15		6		6		12		17:15			9 11		8		17	
05:30		5	14	5	14	10	28	17:45			6	36	8	44	14	80
06:00		4		3		7	20	18:00			7		13		20	
06:15		6		7		13		18:15			5		4		9	
06:30		8	20	7	20	15	74	18:30			3	21	5	20	8	40
06:45		20	38	42	36	39 75	74	18:45			5		6	28	12	49
07:15		34		53		87		19:15			3		2		5	
07:30		14		52		66		19:30			3		2		5	
07:45		37	118	81	228	118	346	19:45			8	19	6	16	14	35
08:00		32 34		49 30		81 64		20:00			2		1		1 5	
08:30		33		34		67		20:30			5		4		9	
08:45		17	116	17	130	34	246	20:45			3	10	3	11	6	21
09:00		18		20		38		21:00			5		1		6	
09:15		15		17		32		21:15			1		1		2	
09:30		10	61	13	66	25	127	21:30			4	11	3	5	7	16
10:00		21		16		37		22:00			1	-	1		2	
10:15		10		14		24		22:15			2		2		4	
10:30		10	50	11	6F	21	115	22:30			5	10	5	0	10	10
10:45		11	50	18	05	29	115	23:00			1	10	0	9	1	
11:15		15		12		27		23:15			ō		Õ		0	
11:30		15		14		29		23:30			2		1		3	
11:45		9	50	15	59	24	109	23:45			0	3	0	1	0	4
TOTALS			464		614		1078	TOTALS				370		391		761
SPLIT %			43.0%		57.0%		58.6%	SPLIT %				48.6%		51.4%		41.4%
				NB		SB		EB	WB						Т	otal
	DAILT TOTALS			0		0		834	1,005						1,	839
			07.45		07.45			DM D. J. U.				10.07		10.05		
AM Peak Hour			07:45		07:15		07:15	PNI Peak Hour				12:30		12:00		12:00
Pk Hr Factor			0.010		235		552	Pk Hr Factor				0.955		0.845		135
Prepared by NDS/ATD VOLUME Lodi Ln W/O Duckhorn Vineyards Dwy

Day: Thursday **Date:** 10/24/2019

7 - 9 Pk Volume

Pk Hr Factor

51

0.797

68

0.850

116

0.806

4 - 6 Pk Volume

Pk Hr Factor

City:	St Hel	ena	
Project #:	CA19_	8531	002

45

0.804

53

0.828

98

0.817

AM Period NB SB EB WB TOTAL PM Period NB SB EB WB TOTAL 00-13 0 0 0 0 10 <th></th> <th>DAILY TOTALS</th> <th></th> <th></th> <th>NB</th> <th></th> <th>SB</th> <th></th> <th>EB</th> <th></th> <th>WB</th> <th></th> <th></th> <th></th> <th></th> <th>Т</th> <th>otal</th>		DAILY TOTALS			NB		SB		EB		WB					Т	otal
AMP Period NB SB EB W/B TOTAL PMA Period NB SB EB W/B TOTAL 00:00 0 0 0 0 0 12:15 16 12:15 16 12:10 15 12:00 10 12:15 13					0		0		620		698					1,	318
00000 0 4 4 12.0333 12.033 12.03	AM Period	NB SB	EB		WB		TC	TAL	PM Period	NB	SB	EB		WB		TC	TAL
00:30 01:45 -1 0 -1 0 <th>00:00</th> <th></th> <th>0</th> <th></th> <th>4 0</th> <th>ļ</th> <th>4</th> <th></th> <th>12:00</th> <th></th> <th></th> <th>18 6</th> <th></th> <th>19 12</th> <th> </th> <th>37</th> <th></th>	00:00		0		4 0	ļ	4		12:00			18 6		19 12		37	
00-05 0 4 0 5 0 9 12-45 7 47 14 59 21 106 01:00 0 0 0 13:30 11 0 20 13:00 11 0 20 13:00 14:00 12:00 14:00 13:00 13:00 13:00 13:00 13:00 13:00 13:00 13:00 13:00 13:00 13:00 13:00 13:00 13:00 13:00 14:00 13:00 13:00 13:00 13:00 13:00 13:00 13:00 13:00 13:00 13:00 13:00 13:00 14:00 14:00 14:00 14:00 14:00 14:00 14:00 14:00 14:00 14:00 <th>00:30</th> <th></th> <th>4</th> <th></th> <th>1</th> <th>ļ</th> <th>5</th> <th></th> <th>12:30</th> <th></th> <th></th> <th>16</th> <th></th> <th>14</th> <th></th> <th>30</th> <th></th>	00:30		4		1	ļ	5		12:30			16		14		30	
01:00 01:15 01:3	00:45		0	4	0	5	0	9	12:45			7	47	14	59	21	106
0133 0145 0 0 0 0 1330 1345 13 1350 13 1400 13 8 5 13 5 13 7 13 5 13 7 14 7 13 7	01:00		0		2	,	2		13:00 12:15			13		13		26	
$\begin{array}{c c c c c c c c c c c c c c c c c c c $	01:15		0		0	,	0		13:30			18		9 15		33	
02:00 02:15 0 0 0 14:05 02:30 8 9 17 20 26 43 20 02:45 0 2 1 3 14:15 17 26 43 20 02:45 0 2 0 1 0 3 14:45 15 9 21 20 20 1 33 10 12 20 20 1 33 11 11 20 20 13 30 11 11 12 13 12 13 100 04:30 0 0 0 16:15 14 16 57 10 53 17 9 04:45 3 4 6 8 16:45 7 45 10 53 17 9 16 56 17 9 16 56 16 12 16 10 16 10 16 10 16 10 16 10 16 10<	01:45		0		1	3	1	3	13:45			15	57	13	50	28	107
02:15 2 1 3 14:30 1/ 4/3 1/ 4/3 1/ 4/3 1/ 4/3 1/ 4/3 1/ 4/3 1/ 1/ 4/3 1/ 1/ 1/ 1/ 1/ 1/ 1/ 1/ 1/ 1/ 1/ 1/ 1/ 1/ 1/ 1/ 1/ 1/ 1/// 1/// 1/// 1/// </th <th>02:00</th> <th></th> <th>0</th> <th></th> <th>0</th> <th></th> <th>0</th> <th></th> <th>14:00</th> <th></th> <th></th> <th>8</th> <th></th> <th>9</th> <th></th> <th>17</th> <th></th>	02:00		0		0		0		14:00			8		9		17	
0 2 0 1 0 3 14-45 -5 49 74 70 29 119 03:00 0 0 0 15:05 10 10 10 30	02:15		2		1	,	3		14:15 14:30			1/ 9		26		43	
0 300 0315 0 0 0 0 0 0 15:00 15:15 14 10 17 10 31 20 20 0335 0 0 0 0 15:15 10 10 20 0345 0 0 0 0 15:45 13 22 35 04:40 0 0 0 15:45 64:3 8 57 14 10 04:30 1 1 2 16:30 12 13 25 04:45 3 4 3 4 6 8 17:15 7 9 16 05:15 3 5 8 17:15 7 9 16 06:30 7 5 12 18:30 8 31 7 30 18 6 06:30 7 5 12 18:30 6 4 10 0 18 6 07:30 10 14 24 19:15 3 <th>02:45</th> <th></th> <th>0</th> <th>2</th> <th>0</th> <th>1</th> <th>0</th> <th>3</th> <th>14:45</th> <th></th> <th></th> <th>15</th> <th>49</th> <th>24</th> <th>70</th> <th>39</th> <th>119</th>	02:45		0	2	0	1	0	3	14:45			15	49	24	70	39	119
03:15 03:30 0 0 15:15 15:45 10 10 20 35 6 43 35 22 35 03:45 04:40 0 0 0 15:36 6 43 43 85 57 14 44 100 20 35 04:40 0 0 0 16:00 14 16 30 22 12 14 26 04:43 3 4 3 4 6 8 16:45 7 45 10 53 17 98 05:00 1 1 1 2 5 17:30 8 4 12 13 25 6 17:30 8 31 7 9 16 7 7 7 7 7 6 13 6 7 </th <th>03:00</th> <th></th> <th>0</th> <th></th> <th>0</th> <th></th> <th>0</th> <th></th> <th>15:00</th> <th></th> <th></th> <th>14</th> <th></th> <th>17</th> <th></th> <th>31</th> <th></th>	03:00		0		0		0		15:00			14		17		31	
0330 0 0 15:30 13 22 25 14 10 0345 0 0 15:43 6 6 43 8 57 14 10 3	03:15		0		0	,	0		15:15			10		10		20	
1033 0 0 0 0 122 0 132 0 133 143 146 30 04:00 0 0 0 0 16:15 113 14 30 2 04:05 3 4 3 4 6 8 16:45 7 45 10 53 17 98 05:00 3 4 3 4 6 8 17:15 8 9 16 30 16 30 16 30 15 61 30 15 61 30 15 61 30 15 61 30 15 61 30 15 61 30 15 61 30 15 61 30 15 61 30 15 61 30 15 61 30 15 61 30 15 61 30 15 61 30 15 61 30 15 <th>03:30</th> <th></th> <th>U O</th> <th></th> <th>0</th> <th>,</th> <th>0</th> <th></th> <th>15:30 15:45</th> <th></th> <th></th> <th>13</th> <th>43</th> <th>22</th> <th>57</th> <th>35</th> <th>100</th>	03:30		U O		0	,	0		15:30 15:45			13	43	22	57	35	100
Open 15 Q+45 O O 0 16:15 16:45 12 14 26 Z 26 Z 27 Z 13 25 26 Z 13 25 27 Z 13 25 27 Z 16:45 7 45 10 53 17 9 16:45 7 45 10 53 17 9 16:15 17 9 16:15 17 9 16:15 17 9 16:15 10 18 17 0 8 10 18 16:15 12 18:15 7 6 13 15:0 16:15 12 18:15 7 6 13 0 16:15 12 18:15 7 6 13 0 16:15 12 18:15 7 6 13 0 16:15 12 18:15 7 18 2 10 16:15 10 10 11 11 12 13:3 10 10 11 11 12 13:3 <th< th=""><th>04:00</th><th></th><th>0</th><th></th><th>0</th><th></th><th>0</th><th></th><th>16:00</th><th></th><th></th><th>14</th><th>45</th><th>16</th><th></th><th>30</th><th>100</th></th<>	04:00		0		0		0		16:00			14	45	16		30	100
04:30 1 1 2 16:30 12 13 25 05:00 1 1 2 17:00 8 4 51 7 9 05:00 3 2 5 17:00 8 4 51 7 9 16 05:15 3 2 5 17:30 8 10 18 56 05:45 2 9 1 9 18 17:730 8 10 18 06:00 2 1 3 18:00 7 8 15 61 06:30 7 5 12 18:00 6 4 10 64 06:30 7 5 12 18:00 5 5 10 10 14 19:15 3 2 5 10 10 14 19:15 3 2 5 10 10 14 10 19:10 10 14 10 10 14 10 10 10 10 10 10 10	04:15		0		0	,	0		16:15			12		14		26	
04:45	04:30		1		1	!	2		16:30			12		13	!	25	
05:00 05:15 1 3 1 2 1 5 1 5 1 5 1 7:15 1 7:15 0 7 9 5 1 6 1 6 05:30 3 2 9 1 9 3 18 17:745 8 10 18 06:00 2 1 3 18:00 7 8 15 61 06:01 2 1 3 18:00 7 8 15 61 06:30 7 5 12 18:30 6 4 10 66 06:45 10 21 8 16 18 37 18:45 8 28 10 21 8 56 07:00 6 6 12 19:00 5 5 10 0 7 8 16 13 6 13 16 16 16 16 16 16 16 16 16 16 16 16 16 16 16 16 16 16 17 16 17 16 17 16 <t< th=""><th>04:45</th><th></th><th>3</th><th>4</th><th>3</th><th>4</th><th>6</th><th>8</th><th>16:45 17:00</th><th></th><th></th><th>/</th><th>45</th><th>10</th><th>53</th><th>17</th><th>98</th></t<>	04:45		3	4	3	4	6	8	16:45 17:00			/	45	10	53	17	98
05:30 05:45 3 2 9 1 1 9 3 3 17:30 17:45 8 8 31 7 7 30 18 5 06:30 06:30 2 1 3 18:00 18:00 7 8 15 06:15 2 2 4 18:10 7 6 13 06:30 7 2 12 18:30 6 4 10 06:45 10 21 8 16 18 37 8:30 6 4 06:45 10 21 8 16 18 37 8:30 7 10 2 19:50 5 5 10 07:30 111 11 12 2 19:30 3 3 6 3 9 9 16 37 9 10 37 10 14 9 9 16 37 13 16 13 16 13 16 13 13 14 12 13 3<	05:15		3		5	,	8		17:15			7		4 9		12	
05:45 2 9 1 9 3 18 17:45 8 31 7 30 15 61 06:15 2 2 4 18:30 7 6 13 5 06:30 7 5 12 18:30 6 4 10 28:30 6 4 10 28:30 6 13 5 10 21 8 16 18:37 18:45 8 28:10 28:18 56 07:15 10 14 24 19:15 3 2 6 37 6 37 6 37 6 37 30 16 37 30 16 37 30 16 37 30 16 37 30 16 37 30 16 37 30 16 37 30 16 37 30 16 37 30 3 3 6 37 33 33	05:30		3		2	,	5		17:30			8		10		18	
66:00 66:15 2 1 3 18:05 7 8 15 06:30 7 5 12 18:15 6 4 10 06:45 10 21 8 16 18:37 18:45 8 28 10 28 18 56 07:00 6 6 12 19:00 5 5 10 7 8 19 16 37 2 5 07:30 11 11 22 19:30 3 3 6 7 18 9 19 16 37 08:30 6 14 20 20:30 7 6 13 49 9 8 6 17 19 12 43 09:00 9 16 25 21:00 3 3 6 17 19 12 43 09:00 9 16 22:00 3 3 9 8	05:45		2	9	1	9	3	18	17:45			8	31	7	30	15	61
06:13 06:45 2 2 4 2 2 4 2 12 18:30 6 0 12 18:30 6 2 18:30 6 2 18:30 6 2 18:30 6 2 18:30 6 2 18:30 6 2 10 2 18:30 6 6 6 12 19:00 5 5 10 0 07:15 10 14 24 19:15 3 2 5 5 5 6 7 18 9 19 16 37 3 3 6 6 7 18 9 19 16 37 3 3 6 6 37 3 3 16 37 3 3 16 37 3 3 16 37 33 3 16 37 33 3 16 37 33 3 16 37 33 3 16 37 33 3 13 13 13 14 20 20:30 7	06:00		2		1	,	3		18:00 18:15			7		8		15	
06:45 10 21 8 16 18 37 18:45 8 28 10 28 18 56 07:00 6 6 6 12 19:00 5 5 10 0 07:30 11 11 24 19:30 3 2 5 5 10 3 2 5 5 10 3 2 5 5 4 9 16 37 3 3 6 3 2 5 6 37 3 3 6 37 16 37 16 37 18 9 19 16 37 6 13 9 16 37 18 9 13 14 20 20:30 7 6 13 2 5 19 12 43 9 3 3 6 17 10 13 14 27 21:15 3 2 5 10	06:30		∠ 7		∠ 5	,	4 12		18:30			, 6		4		10	
07:00 07:15 6 6 6 12 19:00 19:15 5 5 10 07:30 07:45 10 14 24 19:15 3 2 5 07:30 07:45 13 40 15 46 28 86 19:45 7 18 9 19 16 37 08:00 11 19 30 20:00 5 4 9 9 08:30 6 14 20 20:30 7 6 13 08:45 8 41 16 19 105 20:45 7 24 5 19 12 43 09:00 9 16 25 21:00 3 3 2 5 13 12 43 09:01 18 16 34 12 12:30 0 0 0 0 0 0 0 0 0 0 0 0 0 0	06:45		10	21	8	16	18	37	18:45			8	28	10	28	18	56
07:15 10 14 24 19:15 3 2 5 07:45 13 40 15 46 28 86 19:45 7 18 9 19 16 37 08:00 11 19 30 20:00 5 4 9 6 37 98 9 16 37 98 9 10 13 40 15 46 20:00 5 4 9 6 13 40 13 40 13 40 10 20:07 7 6 13 43 9 12 43 9 12 43 9 12 43 9 12 43 9 12 43 9 13 14 27 21:15 3 2 5 5 9 10 12 43 13 12 43 9 3 8 6 17 10 12 43 22:15 3 9 3 8 6 17 10 10 11 11 12:1	07:00		6		6	ı	12		19:00			5		5		10	
07:30 07:30 07:45 11 13 11 14 11 14 12 14 22 22 26 19:45 13 7 18 18 9 19 16 16 37 37 08:00 08:15 11 16 20 6 36 14 20:00 20:15 5 4 4 9 9 12 43 4 9 12 43 4 08:30 08:45 6 4 11 6 16 20 20:00 20:15 7 24 5 19 12 43 43 9 09:00 09:45 9 13 13 13 14 14 27 27 21:15 3 22 2 5 5 0 0 0	07:15		10		14	,	24		19:15			3		2		5	
08:00 11 19 30 20:00 5 4 9 08:00 11 19 36 20:15 5 4 9 08:00 6 14 20 36 20:15 5 4 9 08:00 6 14 20 20:30 7 6 13 08:00 9 16 25 21:00 3 3 6 09:00 9 16 25 21:00 3 3 6 09:30 18 16 34 21:35 3 2 5 09:35 13 53 13 59 26 112 21:45 3 9 8 6 7 10:00 7 6 13 22:00 3 2 5 10:15 13 8 8 16 22:15 0 0 0 1 11:13 1 8 2 21	07:50		13	40	15	46	22	86	19:45			5	18	э 9	19	16	37
08:15 08:30 16 6 20 14 36 20 20:15 20:30 5 7 4 6 9 13 08:45 8 41 11 64 19 105 20:30 7 6 13 09:00 9 16 25 21:00 3 3 6 3 3 6 09:15 13 14 27 21:15 3 2 5 09:30 18 16 34 21:30 0 0 0 09:45 13 53 13 59 26 112 21:45 3 9 3 8 6 17 10:00 7 6 13 22:00 3 2 5 10:15 13 8 14 22 22:00 4 3 7 10:30 11 13 1 8 2 1 1 1 1 1 1 1 1 1 1 1	08:00		11		19		30		20:00			5		4		9	
08:30 6 14 20 20:30 7 6 13 08:45 8 41 11 64 19 105 20:45 7 24 5 19 12 43 09:00 9 16 25 21:00 3 3 2 5 09:15 13 14 27 21:15 3 2 5 09:30 18 16 34 21:30 0 0 0 0 09:45 13 53 13 59 26 112 21:45 3 9 3 8 6 17 10:00 7 6 13 22:00 3 2 5 10:15 10:30 8 14 22 22:00 3 2 1 13 8 2 21 10:30 17 40 14 42 31 82 23:00 0 0	08:15		16		20	,	36		20:15			5		4		9	
08:45 0 4 11 04 19 105 20:45 7 24 5 12 42 45 09:00 9 16 25 21:00 3 3 2 5 09:30 18 16 34 21:15 3 2 5 09:30 18 16 34 21:30 0 0 0 0 0 09:45 13 53 15 26 112 21:45 3 9 3 8 6 17 10:00 7 6 13 22:00 3 2 5 7 10:30 8 14 22 22:30 4 3 7 7 10:45 17 40 14 42 31 82 22:45 1 13 1 8 2 21 11:00 9 11 20 23:00 0 1	08:30		6	41	14	64	20	105	20:30			7	24	6	10	13	42
09:15 09:30 13 18 16 16 27 34 21:15 21:15 3 21:15 3 2 21:130 2 2 21:130 3 2 2 21:130 2 2 21:130 3 2 2 21:130 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	08:45		<u> </u>		1.6	04	25	105	20:45			3	24	3	19	6	43
09:30 18 16 34 21:30 0 </th <th>09:15</th> <th></th> <th>13</th> <th></th> <th>14</th> <th>I</th> <th>27</th> <th></th> <th>21:15</th> <th></th> <th></th> <th>3</th> <th></th> <th>2</th> <th>- I</th> <th>5</th> <th></th>	09:15		13		14	I	27		21:15			3		2	- I	5	
09:45 13 53 13 59 26 112 21:45 3 9 3 8 6 17 10:00 7 6 13 22:00 3 2 5 5 2 7 10:15 8 8 16 22:00 3 2 5 7 10:15 5 2 7 7 6 17 40 42 22 22:30 4 3 7 7 10:15 17 40 14 42 31 82 22:45 1 13 18 2 21 11:10 13 18 2 21 11:11 15 16 31 23:30 0 0 1 1 1 1 17 40 14 48 23:30 0 0 0 1 </th <th>09:30</th> <th></th> <th>18</th> <th></th> <th>16</th> <th>I</th> <th>34</th> <th></th> <th>21:30</th> <th></th> <th></th> <th>0</th> <th></th> <th>0</th> <th>- I</th> <th>0</th> <th></th>	09:30		18		16	I	34		21:30			0		0	- I	0	
10:00 / / 0 13 22:00 3 2 3 10:15 8 8 16 22:15 5 2 7 10:30 8 14 22 22:30 4 3 7 10:45 17 40 14 42 31 82 22:45 1 13 1 8 2 21 11:00 9 11 20 23:00 0 1 <t< th=""><th>09:45</th><th></th><th></th><th>53</th><th></th><th>59</th><th>26</th><th>112</th><th>21:45</th><th></th><th></th><th>3</th><th>9</th><th>3</th><th>8</th><th>6</th><th>17</th></t<>	09:45			53		59	26	112	21:45			3	9	3	8	6	17
10:30 8 14 22 22:30 4 3 7 10:45 17 40 14 42 31 82 22:45 1 13 1 8 2 21 11:00 9 11 20 23:00 0 1 1 1 11:15 15 16 31 23:15 0 0 0 0 11:30 11 9 20 23:30 0 0 0 0 0 11:45 7 42 11 47 18 89 23:45 0 0 0 0 0 1 <	10:00		/ 8		ь Я	,	15		22:00			э 5		2		5	
10:45 17 40 14 42 31 82 22:45 1 13 1 8 2 21 11:00 9 11 20 23:00 0 1 1 1 11:15 15 16 31 23:15 0 0 1 1 11:30 11:3 1 9 20 23:30 0 0 0 0 11:45 7 42 11 47 18 89 23:45 0 0 0 0 11:45 7 42 11 47 18 89 23:45 0 0 0 1	10:30		8		14	1	22		22:30			4		3		7	
11:00 9 11 20 23:00 0 1 1 11:15 15 16 31 23:15 0 0 0 0 11:30 11 9 20 23:30 0 0 0 1 1 11:45 7 42 11 47 18 89 23:45 0 0 1 0 1 TOTALS 256 296 552 TOTALS 364 402 766 SPLIT % 46.4% 53.6% 41.9% SPLIT % 47.5% 52.5% 58.1% DAILY TOTALS NB SB EB WB VB Total 1,318 AM Peak Hour 09:00 07:45 07:30 PM Peak Hour 13:30 14:15 14:15 AM Peak Hour 09:00 07:45 07:30 PM Peak Hour 58 78 13:30 AM Peak Hour 0.736 0.850 0.806 PK Volume 58 78 13:33 Pk Hr Factor 0.736 0.850 0.806	10:45		17	40	14	42	31	82	22:45			1	13	1	8	2	21
11:15 15 10 31 23:15 0 0 0 0 11:30 11 9 20 23:30 0 0 0 0 10 1 11:45 7 42 11 47 18 89 23:45 0 0 1 0 1 TOTALS 256 296 552 TOTALS 364 402 766 SPLIT % 46.4% 53.6% 41.9% SPLIT % 47.5% 52.5% 58.1% DAILY TOTALS NB SB EB WB VB 730 PM Peak Hour 13:30 14:15 14:15 AM Peak Hour 09:00 07:45 07:30 PM Peak Hour 13:30 14:15 14:15 AM Peak Hour 0.736 0.850 0.806 PM Peak Hour 13:30 14:15 14:15 AM Peak Hour 0.736 0.850 0.806 PM Peak Hour 0.806 0.750 0.773 AM Peak Hour 0.736 0.850 0.806 PM Peak Hour 13:30 14:1	11:00		9 15		11	,	20		23:00			U		1		1	
11:45 7 42 11 47 18 89 23:45 0 0 1 0 1 TOTALS 256 296 552 TOTALS 364 402 766 SPLIT % 46.4% 53.6% 41.9% SPLIT % 47.5% 52.5% 58.1% DAILY TOTALS NB SB EB WB Total 0 0 0 620 698 Total AM Peak Hour 09:00 07:45 07:30 PM Peak Hour 13:30 14:15 14:15 AM Peak Hour 09:00 07:45 07:30 PM Peak Hour 58 78 133 AM Peak Hour 0.736 0.850 0.806 PK Hr Factor 0.806 0.750 0.773 PK Hr Factor 0.736 0.850 0.806 PM Peak Hour 16:00	11:15		15		9	,	20		23:30			0		0		0	
TOTALS 256 296 552 TOTALS 364 402 766 SPLIT % 46.4% 53.6% 41.9% SPLIT % 47.5% 52.5% 58.1% DAILY TOTALS NB SB EB WB Total 1,318 AM Peak Hour 09:00 07:45 07:30 PM Peak Hour 13:30 14:15 14:15 AM Peak Hour 09:00 07:45 07:30 PM Peak Hour 58 78 1333 AM Peak Hour 0.736 0.850 0.806 PK Volume 58 78 1333 PK Hr Factor 0.736 0.850 0.806 PK Hr Factor 0.806 0.750 0.773 7 - 9 Volume 81 110 191 4 - 6 Volume 76 83 159 7 - 3 Volume 07:40 07:45 07:30 4 - 6 Volume 16:00 16:00 16:00 16:00 16:00 16:00 16:00 16:00 16:00 16:00 16:00 16:00	11:45		7	42	11	47	18	89	23:45			0		0	1	Ō	1
SPLIT % 46.4% 53.6% 41.9% SPLIT % 47.5% 52.5% 58.1% DAILY TOTALS NB SB EB WB SB Total 0 0 620 698 13:30 14:15 14:15 AM Peak Hour 09:00 07:45 07:30 PM Peak Hour 13:30 14:15 14:15 AM Pk Volume 53 68 116 PM Pk Volume 58 78 133 Pk Hr Factor 0.736 0.850 0.806 Pk Hr Factor 0.806 0.750 0.773 7 - 9 Volume 81 110 191 4 - 6 Volume 76 83 159 7 - 9 Volume 07:30 07:40 4 - 6 Volume 16:00 16:00 16:00	TOTALS			256		296		552	TOTALS				364		402		766
NB SB EB WB Total 0 0 620 698 1,318 AM Peak Hour 09:00 07:45 07:30 PM Peak Hour 13:30 14:15 14:15 AM Peak Hour 53 68 116 PM Pk Volume 58 78 1333 Pk Hr Factor 0.736 0.850 0.806 Pk Hr Factor 0.806 0.750 0.773 7 - 9 Volume 81 110 191 4 - 6 Volume 76 83 159 7 - 9 Valume 07:30 07:45 07:30 4 - 6 Peak Hour 16:00 16:0	SPLIT %			46.4%		53.6%		41.9%	SPLIT %				47.5%	5	52.5%		58.1%
O O 620 698 1,318 AM Peak Hour 09:00 07:45 07:30 PM Peak Hour 13:30 14:15 14:15 AM Pk Volume 53 68 116 PM Pk Volume 58 78 133 Pk Hr Factor 0.736 0.850 0.806 Pk Hr Factor 0.806 0.750 0.773 7 - 9 Volume 81 110 191 4 - 6 Volume 76 83 159 7 - 9 Peak Hour 07:45 07:30 4 - 6 Peak Hour 16:00 16:00 16:00					NB		SB		EB		WB					T	otal
AM Peak Hour 09:00 07:45 07:30 PM Peak Hour 13:30 14:15 14:15 AM Pk Volume 53 68 116 PM Pk Volume 58 78 133 Pk Hr Factor 0.736 0.850 0.806 Pk Hr Factor 0.806 0.750 0.773 7 - 9 Volume 81 110 191 4 - 6 Volume 76 83 159 7 - 9 Peak Hour 07:30 07:40 4 - 6 Peak Hour 16:00 16:00 16:00		DAILY IUTALS			0		0		620		698					1	318
AM Peak Hour 09:00 07:45 07:30 PM Peak Hour 13:30 14:15 14:15 AM Pk Volume 53 68 116 PM Pk Volume 58 78 133 Pk Hr Factor 0.736 0.850 0.806 Pk Hr Factor 0.806 0.750 0.773 7 - 9 Volume 81 110 191 4 - 6 Volume 76 83 159 7 - 9 Peak Hour 07:30 07:45 07:30 4 - 6 Peak Hour 16:00 16:00 16:00																	
AM Pk Volume 53 68 116 PM Pk Volume 58 78 133 Pk Hr Factor 0.736 0.850 0.806 Pk Hr Factor 0.806 0.750 0.773 7 - 9 Volume 81 110 191 4 - 6 Volume 76 83 159 7 - 9 Veak Hour 0.730 0.745 0730 4 - 6 Peak Hour 16:00 16:00 16:00	AM Peak Hour			09:00		07:45		07:30	PM Peak Hour				13:30		14:15		14:15
Pk Hr Factor 0.736 0.850 0.806 Pk Hr Factor 0.806 0.750 0.773 7 - 9 Volume 0 81 110 191 4 - 6 Volume 0 0 76 83 159 7 - 9 Peak Hour 07:30 07:45 07:30 4 - 6 Peak Hour 16:00 <th>AM Pk Volume</th> <th></th> <th></th> <th>53</th> <th></th> <th>68</th> <th></th> <th>116</th> <th>PM Pk Volume</th> <th></th> <th></th> <th></th> <th>58</th> <th></th> <th>78</th> <th></th> <th>133</th>	AM Pk Volume			53		68		116	PM Pk Volume				58		78		133
7-9 Volume 0 81 110 191 4-6 Volume 0 70 03 135 7-9 Peak Hour 16:00 16:00 16:00 16:00	Pk Hr Factor	0		0.736		0.850		0.806	Pk Hr Factor		-	0	0.806		0.750		0.773
	7 - 9 Volume 7 - 9 Peak Hour			07:30		07:45		07:30	4 - 6 Peak Hour				16:00		85 16:00		16:00

Prepared by NDS/ATD **VOLUME** Lodi Ln W/O Duckhorn Vineyards Dwy

Day: Friday Date: 10/25/2019

7 - 9 Pk Volume

Pk Hr Factor

62

0.738

88

0.846

150

0.872

4 - 6 Pk Volume

Pk Hr Factor

City:	St Hel	ena	
Project #:	CA19_	8531	_002

45

0.750

60

0.652

105

0.691

				NB		SB		EB	WB	3					T(otal
	DAILY TUTALS			0		0		713	859)					1,	572
AM Period	NB SB	EB		WB		TC	TAL	PM Period	NB	SB	EB		WB		ТС	TAL
00:00	I	2		2		4		12:00 12:15			9 16		20 23		29	
00:30	1	0		0		0		12:30			12		16		28	
00:45	<u> </u>	1	3	1	4	2	7	12:45			22	59	23	82	45	141
01:00	1	0		2		2		13:00			11		25		36	
01:15	1	0		0		0		13:15			20		1/ 31		28 51	
01:45	I	0		0	2	0	2	13:45			15	57	18	91	33	148
02:00		3		3		6		14:00			8		14		22	
02:15	1	1		1		2		14:15 14:30			14 22		17 25		31	
02:45	1	1	5	1	5	2	10	14:45			22	67	18	74	47	141
03:00	i	0		0	<u> </u>	0		15:00			15		22		37	
03:15	1	0		0		0		15:15			15		27		42	
03:30	1	3 0	з	3	3	6	6	15:30 15:45			12	57	24	90	30	147
04:00	ſ	0		0		0	0	16:00			15	51	23	30	38	147
04:15	1	0		0		0		16:15			9		10	ļ	19	
04:30	1	0	2	0		0	6	16:30			10		11	<u> </u>	21	105
04:45	l	3	3	3	3	6	6	16:45 17:00			11	45	<u>16</u> 10	60	27	105
05:15	1	2		2		4		17:15			5		8		13	
05:30	1	2		3		5		17:30			11		11		22	
05:45	 	13	17	8	13	21	30	17:45			14	43	14	52	28	95
06:00	1	1 5		1 5		10		18:00 18:15			10		13 12		23	
06:30	1	5		7		12		18:30			5		4		9	
06:45	<u> </u>	13	24	8	21	21	45	18:45			6	38	6	35	12	73
07:00	1	7		7		14		19:00			5		6		11	
07:15 07:30	1	9 12		9		18 21		19:15			3 4		3 4	ļ	6	
07:45	1	17	45	25	50	42	95	19:45			5	17	4	17	9	34
08:00	1	17		26		43		20:00			3		1		4	
08:15	1	7		15		22		20:15			6		7	ļ	13	
08:30	1	21 17	62	22 8	71	43 25	133	20:50			∠ 2	13	2 2	12	4	25
09:00	1	7		10	<u></u>	17	100	21:00			3	10	2		5	2.5
09:15	1	9		16		25		21:15			3		2	ļ	5	
09:30	1	11	25	8	40	19	77	21:30			4	10	4	12	8	25
10:00	r	<u> </u>	30	<u> </u>	42	26	//	21:45			3	15	3		6	25
10:15	1	11		13		24		22:15			1		1	ļ	2	
10:30	1	5		11		16		22:30			3		2	_	5	
10:45	l	10	39	12	49	22	88	22:45			4	11	1	7	5	18
11:15	1	12		18		33		23:15			1		1		2	
11:30	1	16		17		33		23:30			1		2		3	
11:45	L	11	54	9	60	20	114	23:45			0	3	0	4	0	7
TOTALS			290		323		613	TOTALS				423		536		959
SPLIT %			47.3%		52.7%		39.0%	SPLIT %				44.1%		55.9%		61.0%
				NB		SB		EB	WE	3				('	Т	otal
	DAILY IUTALS		l i	0		0		713	859	•				/ i	1,	572
								-								
AM Peak Hour			07:45		07:45		07:45	PM Peak Hour				14:30		12:45		14:30
AM Pk Volume			62		88		150	PM Pk Volume				75		96		167
7 9 Volumo	0 0		107	<u> </u>	121		228		0	()	0.815		112		200
7 - 9 Peak Hour			07:45		07:45		07:45	4 - 6 Peak Hour				16:00		16:00		16:00

Prepared by NDS/ATD VOLUME

Lodi Ln W/O Duckhorn Vineyards Dwy

Day: Saturday Date: 10/26/2019

7 - 9 Pk Volume Pk Hr Factor

25

0.694

20

0.714

City:	St Hel	ena	
Project #:	CA19	8531	002

33

0.750

43

0.896

75

0.815

				NB		SB		EB	_	WB						T	otal
	DAILY TOTALS			0		0		523		571						1,	094
AM Period	NB SB	EB		WB		ТО	TAL	PM Period	NB		SB	EB		WB		ТС	TAL
00:00		0		0	I	0		12:00				10		19	I	29	
00:15		1		1	ļ	2		12:15				8		14	ļ	22	
00:30		2	2	2	3	4	6	12:30				12	37	14	58	21	05
01:00		1		2		3		13:00				10	- 57	10		20	35
01:15		1		1		2		13:15				12		13	ļ	25	
01:30		0		0		0		13:30				9		14	ļ	23	
01:45		3	5	3	6	6	11	13:45				13	44	13	50	26	94
02:00		4		4		8		14:00				17		18	ļ	35	
02:15		1		U T		2		14:15				15		ბ 10	ļ	15 34	
02:45		3	8	2	7	5	15	14:45				5	44	7	52	12	96
03:00		2		1	<u> </u>	3		15:00				15		22		37	
03:15		1		2		3		15:15				12		9	ļ	21	
03:30		3		3	!	6		15:30				13	_	13	!	26	
03:45		2	8	2	8	4	16	15:45				7	47	10	54	17	101
04:00		0		0		0		16:00				12		11	ļ	23	
04:15		4		3 0		0		16:30				8 8		9 11	ļ	17	
04:45		3	7	2	5	5	12	16:45				4	32	12	43	16	75
05:00		3		3		6		17:00				11		10		21	
05:15		2		2		4		17:15				7		4	ļ	11	
05:30		1		0	/	1		17:30				8		13	I	21	
05:45		2	8	2	7	4	15	17:45				7	33	8	35	15	68
06:00		1		1		2		18:00				14		13 2	ļ	27	
06:15		1 6		1 6	1	12		18:30				8 7		5 4	1	11	
06:45		6	14	6	14	12	28	18:45				, 6	35	5	25	11	60
07:00		6		7		13		19:00				4		3		7	
07:15		0		0		0		19:15				2		3	ļ	5	
07:30		3		4		7		19:30				2		1	1	3	
07:45		5	14	6	17	11	31	19:45				2	10	3	10	5	20
08:00		3		3		6		20:00				/		6 1	, I	13	
08:15		, 6		/ 3		14 9		20:30				0		0	ļ	0	
08:45		9	25	5	18	14	43	20:45				4	11	5	12	9	23
09:00		7		11		18		21:00				1		0		1	
09:15		7		5	1	12		21:15				3		3	1	6	
09:30		11		13		24		21:30				4		4	!	8	
09:45		9	34	9	38	18	72	21:45				1	9	0	7	1	16
10:00		12		78	1	33 17		22:00				1		1	1	2	
10:13		7		5 7		14		22:30				2		3	ļ	5	
10:45	I	7	37	, 9	43	16	80	22:45				6	13	3	12	9	25
11:00		10		9		19		23:00				1		0		1	
11:15		7		11		18		23:15				5		4	ļ	9	
11:30		9	2.4	10	20	19	70	23:30				3		2		5	10
11:45		8	107	9	39	17	/3	23:45					226	2	266	4	19 602
SDUT %			10.0%		51 0%		26.7%	SPLIT %					17 1%		52.0%		62.2%
SPLIT %			49.0%		51.0%		36.7%	SPLIT %					47.1%		52.9%		63.3%
	DAILY TOTALS			NB		SB		EB		WB						Т	otal
				0		0		523		571						1,	094
AM Peak Hour			09:30		11:45		09:30	PM Peak Hour					13:45		12:00		13:45
AM Pk Volume			43		56		92	PM Pk Volume					52		58		110
Pk Hr Factor			0.717		0.737		0.697	Pk Hr Factor					0.765		0.763		0.786
7 - 9 Volume	0 0		39		35		74	4 - 6 Volume		0	0		65		78		143
7 O Deskiller			00.00		07.20			4 C Deels Herry					17.00		10.00		10.00

4 - 6 Pk Volume

Pk Hr Factor

43

0.768

Napa County Peak Hour Heavy Vehicle Percentages

September and October - 2017 and 2018

1. SR29/Lodi Ln			5+ Axle	Grape	Total	%Total
		Vehicles	Trucks	Trucks	Trucks	Trucks
22-Sep-17 Friday	7:45-8:45 AM	1090	59	27	86	8.00
	3:45-4:45 PM	1474	43	10	53	4.00
23-Sep-17 Saturday	1:00-2:00 PM	1407	18	8	26	2.00
	3:00-4:00 PM	1430	30	1	31	2.00
2. Silverado Trail/Lodi Ln			5+ Axle	Grape	Total	%Total
		Vehicles	Trucks	Trucks	Trucks	Trucks
22-Sep-17 Friday	8:00-9:00 AM	470	12	13	25	5.00
	3:45-4:45 PM	750	10	4	14	2.00
23-Sep-17 Saturday	1:00-2:00 PM	592	13	4	17	3.00
	2:15-3:15 PM	663	11	4	15	2.00

Note: All volumes are total volumes through intersection.

Source: Crane Transportation Group



This page intentionally left blank

Appendix C

Intersection Level of Service Calculations





This page intentionally left blank

Generated with	PTV	VISTRO
Version 7.00-06		

		Intersection Intersect	Level Of Servic ion 1: SR 29/Lo	e Report di Ln			
Control Type: Analysis Method:	Two-way stop HCM 6th Edition			Delay Leve	/ (sec / veh): I Of Service:	5	6.0 F 606
Analysis Ferrou.	To minutes			Volume t	o oupdoity (wo).	0.1	
Intersection Setup							
Nam	e	SR	29	SR	29	Lod	i Ln
Approa	ich	North	bound	South	bound	West	bound
Lane Config	guration	H	•	<u></u> п	I I	1	→
Turning Mo	vement	Thru	Right	Left	Thru	Left	Right
Lane Wid	th [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes	in Pocket	0	0	1	0	0	0
Pocket Ler	igth [ft]	100.00	100.00	90.00	100.00	100.00	100.00
Speed [r	nph]	50	.00	50	.00	40.	.00
Grade	[%]	0.	00	0.	00	0.0	00
Crossw	alk	N	0	N	lo	N	lo
Volumes					·		
Nam	e	SR	29	SR	29	Lod	i Ln
Base Volume Ir	nput [veh/h]	667	40	22	622	85	37
Base Volume Adju	stment Factor	1.0000 1.0000 1.0000 1.000		1.0000	1.0000	1.0000	
Heavy Vehicles P	ercentage [%]	4.00	4.00	4.00	4.00	4.00	4.00
Growth F	actor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volu	ıme [veh/h]	0	0	0	0	0	0
Site-Generated	Trips [veh/h]	0	0	0	0	0	0
Diverted Trip	s [veh/h]	0	0	0	0	0	0
Pass-by Trip	s [veh/h]	0	0	0	0	0	0
Existing Site Adjustme	nt Volume [veh/h]	0	0	0	0	0	0
Other Volum	e [veh/h]	0	0	0	0	0	0
Total Hourly Vol	ume [veh/h]	667	40	22	622	85	37
Peak Hour	Factor	0.9600	0.9600	0.9600	0.9600	0.9600	0.9600
Other Adjustm	ent Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute V	olume [veh/h]	174	10	6	162	22	10
Total Analysis Vo	lume [veh/h]	695	42	23	648	89	39
Pedestrian Volu	ime [ped/h]	()	(D	()

Version 7.00-06

Intersection Settings

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.00	0.03	0.01	0.61	0.09
d_M, Delay for Movement [s/veh]	0.00	0.00	9.30	0.00	56.02	39.95
Movement LOS	A	A	A	A	F	E
95th-Percentile Queue Length [veh/In]	0.00	0.00	0.08	0.00	3.70	3.70
95th-Percentile Queue Length [ft/ln]	0.00	0.00	2.06	0.00	92.57	92.57
d_A, Approach Delay [s/veh]	0.	0.00		32	51.	.12
Approach LOS	A		/	4	F	:
d_I, Intersection Delay [s/veh]			4.	40		
Intersection LOS		F				

Duckhorn Vineyards TIS

Friday	PM	Existing

W-Trans

2

Duckhorn Vineyards TIS Friday PM Existing

Generated with	PTV	VISTRO
Version 7.00-06		

		Intersection	Level Of Servic	e Report			
Control Type: Analysis Method: Analysis Period:	Two-way stop HCM 6th Edition 15 minutes	intersection 2		Delay Level Volume to	v (sec / veh): Of Service: Capacity (v/c):	1: 0.1	5.5 C 092
Intersection Setup							
Name	e	Silvera	do Trail	Silvera	do Trail	Lod	i Ln
Approa	ch	North	bound	South	bound	Easth	ound
Lane Config	uration	-		H	•	T	→
Turning Mo	vement	Left	Thru	Thru	Right	Left	Right
Lane Wid	th [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes	in Pocket	0	0	0	0	0	0
Pocket Len	gth [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [n	nph]	50.	.00	50	.00	40	.00
Grade (%]	0.0	00	0.0	00	0.0	00
Crossw	alk	N	0	N	0	N	lo
Volumes	·						
Name	9	Silvera	do Trail	Silvera	do Trail	Lod	i Ln
Base Volume In	iput [veh/h]	63	299	265	50	32	46
Base Volume Adju	stment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Pe	ercentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth F	actor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volu	ime [veh/h]	0	0	0	0	0	0
Site-Generated	Trips [veh/h]	0	0	0	0	0	0
Diverted Trip	s [veh/h]	0	0	0	0	0	0
Pass-by Trip	s [veh/h]	0	0	0	0	0	0
Existing Site Adjustme	nt Volume [veh/h]	0	0	0	0	0	0
Other Volume	e [veh/h]	0	0	0	0	0	0
Total Hourly Vol	ume [veh/h]	63	299	265	50	32	46
Peak Hour	Factor	0.9600	0.9600	0.9600	0.9600	0.9600	0.9600
Other Adjustme	ent Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Ve	olume [veh/h]	16	78	69	13	8	12
Total Analysis Vo	lume [veh/h]	66	311	276	52	33	48
Pedestrian Volu	me [ped/h]	()	()	()

Version 7.00-06

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			Yes
Storage Area [veh]	0	0	1
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V//C Mevement V//C Datia	0.05	0.00	0.00	0.00	0.00	0.07
V/C, WOVERNETIC V/C Ratio	0.05	0.00	0.00	0.00	0.09	0.07
d_M, Delay for Movement [s/veh]	8.09	0.00	0.00	0.00	15.51	10.30
Movement LOS	A	A	A	A	С	В
95th-Percentile Queue Length [veh/In]	0.17	0.17	0.00	0.00	0.30	0.30
95th-Percentile Queue Length [ft/In]	4.24	4.24	0.00	0.00	7.62	7.62
d_A, Approach Delay [s/veh]	1.	1.42 0.00		12	.42	
Approach LOS		A A B			3	
d_I, Intersection Delay [s/veh]	1.96					
Intersection LOS				С		

Duckhorn Vineyards TIS

Friday	ΡM	Existing

Duckhorn Vineyards TIS Friday PM Existing W-Trans 3

Generated with	PTV	VISTRO
Version 7.00-06		

		Intersection Intersect	Level Of Servic ion 1: SR 29/Lo	e Report di Ln			
Control Type: Analysis Method: Analysis Period:	Two-way stop HCM 6th Edition 15 minutes			Delay Leve Volume t	v (sec / veh): Of Service: o Capacity (v/c):	3 0.1	9.1 E 297
Intersection Setup							
Nam	e	SR	29	SR	29	Lod	i Ln
Approa	ach	North	ound	South	bound	West	oound
Lane Config	guration	H	•	٦	1	٦	-
Turning Mo	vement	Thru	Right	Left	Thru	Left	Right
Lane Wid	lth [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes	in Pocket	0	0	1	0	0	0
Pocket Ler	ngth [ft]	100.00	100.00	90.00	100.00	100.00	100.00
Speed [r	nph]	50.	00	50	.00	40	.00
Grade	[%]	0.0	00	0.00		0.00	
Crossw	alk	N	0	No		No	
Volumes	· · · ·						
Nam	e	SR	29	SR	29	Lod	i Ln
Base Volume Ir	nput [veh/h]	686	22	27	649	39	13
Base Volume Adju	stment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles P	ercentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth F	actor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volu	ume [veh/h]	0	0	0	0	0	0
Site-Generated	Trips [veh/h]	0	0	0	0	0	0
Diverted Trip	s [veh/h]	0	0	0	0	0	0
Pass-by Trip	s [veh/h]	0	0	0	0	0	0
Existing Site Adjustme	ent Volume [veh/h]	0	0	0	0	0	0
Other Volum	e [veh/h]	0	0	0	0	0	0
Total Hourly Vol	ume [veh/h]	686	22	27	649	39	13
Peak Hour	Factor	0.9600	0.9600	0.9600	0.9600	0.9600	0.9600
Other Adjustm	ent Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute V	olume [veh/h]	179	6	7	169	10	3
Total Analysis Vo	lume [veh/h]	715	23	28	676	41	14
Pedestrian Volu	ume [ped/h]	C)	()	()

Version 7.00-06

Intersection Settings

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

Movement, Approach, & Intersection Results

1//0_N	0.04	0.00	0.00	0.04	0.00	0.00
V/C, Movement V/C Ratio	0.01	0.00	0.03	0.01	0.30	0.03
d_M, Delay for Movement [s/veh]	0.00	0.00	9.29	0.00	39.15	21.52
Movement LOS	A	A	A	A	E	С
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.10	0.00	1.18	1.18
95th-Percentile Queue Length [ft/In]	0.00	0.00	2.50	0.00	29.59	29.59
d_A, Approach Delay [s/veh]	0.00 0.37		34	.66		
Approach LOS		A A D)	
d_I, Intersection Delay [s/veh]	1.45					
Intersection LOS			1	E		

Duckhorn Vineyards TIS

Saturday Pivi Existing

Duckhorn Vineyards TIS Saturday PM Existing W-Trans

Generated with	PTV	VISTRO
Version 7.00-06		

		Intersection	2: Silverado Tra	il/Lodi Ln			
Control Type:	Two-way stop			Delay	/ (sec / veh):	1	4.2 B
Analysis Method: Analysis Period:	15 minutes			Volume t	o Capacity (v/c):	0.	040
,							
Intersection Setup							
Name	e	Silvera	do Trail	Silvera	do Trail	Loc	li Ln
Approa	ich	North	bound	South	bound	Eastt	bound
Lane Config	guration	+		ŀ	•	1	₽
Turning Mo	vement	Left	Thru	Thru	Right	Left	Right
Lane Wid	th [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes	in Pocket	0	0	0	0	0	0
Pocket Ler	igth [ft]	100.00	100.00	100.00	100.00	100.00	100.0
Speed [r	nph]	50.	00	50.00		40.00	
Grade	[%]	0.	00	0.00		0.00	
Crossw	alk	N	0	No		No	
/olumes							
Name	e	Silvera	do Trail	Silvera	do Trail	Loc	li Ln
Base Volume Ir	nput [veh/h]	30	296	253	31	15	31
Base Volume Adju	stment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.000
Heavy Vehicles Pe	ercentage [%]	3.00	3.00	3.00	3.00	3.00	3.00
Growth F	actor	1.0000	1.0000	1.0000	1.0000	1.0000	1.000
In-Process Volu	ıme [veh/h]	0	0	0	0	0	0
Site-Generated	Trips [veh/h]	0	0	0	0	0	0
Diverted Trip	s [veh/h]	0	0	0	0	0	0
Pass-by Trip	s [veh/h]	0	0	0	0	0	0
Existing Site Adjustme	nt Volume [veh/h]	0	0	0	0	0	0
Other Volum	e [veh/h]	0	0	0	0	0	0
Total Hourly Vol	ume [veh/h]	30	296	253	31	15	31
Peak Hour	Factor	0.9100	0.9100	0.9100	0.9100	0.9100	0.910
Other Adjustm	ent Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.000
Total 15-Minute V	olume [veh/h]	8	81	70	9	4	9
Total Analysis Vo	lume [veh/h]	33	325	278	34	16	34
Pedestrian Volu	ime (ped/h)	())	()

Version 7.00-06

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			Yes
Storage Area [veh]	0	0	1
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

1//0 M	0.00	0.00	0.00	0.00	0.04	0.05
V/C, Movement V/C Ratio	0.03	0.00	0.00	0.00	0.04	0.05
d_M, Delay for Movement [s/veh]	7.98	0.00	0.00	0.00	14.20	10.01
Movement LOS	A	A	A	A	В	В
95th-Percentile Queue Length [veh/ln]	0.08	0.08	0.00	0.00	0.14	0.14
95th-Percentile Queue Length [ft/In]	2.04	2.04	0.00	0.00	3.60	3.60
d_A, Approach Delay [s/veh]	0.74 0.00 11.35			35		
Approach LOS	A A B			3		
d_I, Intersection Delay [s/veh]	1.15					
Intersection LOS				В		

Duckhorn Vineyards TIS

Duckhorn Vineyards TIS Saturday PM Existing W-Trans

Generated with	PTV	VISTRO
Version 7.00-06		

		Intersection	Level Of Servic	ce Report			
Control Type: Analysis Method: Analysis Period:	Two-way stop HCM 6th Edition 15 minutes	Intersect	10n 1: SR 29/Lo	Delay Leve Volume t	/ (sec / veh): l Of Service: o Capacity (v/c):	6 0.	1.8 F 653
Intersection Setup							
Name	e	SR	29	SR	29	Lod	i Ln
Approa	ich	North	bound	South	bound	West	oound
Lane Config	guration	F	•	ا ا	1	٦	→
Turning Mo	vement	Thru	Right	Left	Thru	Left	Right
Lane Wid	th [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes	in Pocket	0	0	1	0	0	0
Pocket Ler	igth [ft]	100.00	100.00	90.00	100.00	100.00	100.00
Speed [r	nph]	50	.00	50	.00	40	.00
Grade	[%]	0.0	00	0.00		0.00	
Crossw	alk	N	0	N	lo	N	lo
Volumes							
Name	e	SR	29	SR	29	Lod	i Ln
Base Volume Ir	nput [veh/h]	670	44	24	626	90	41
Base Volume Adju	stment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Pe	ercentage [%]	4.00	4.00	4.00	4.00	4.00	4.00
Growth F	actor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volu	ime [veh/h]	0	0	0	0	0	0
Site-Generated	Trips [veh/h]	0	0	0	0	0	0
Diverted Trip	s [veh/h]	0	0	0	0	0	0
Pass-by Trip	s [veh/h]	0	0	0	0	0	0
Existing Site Adjustme	nt Volume [veh/h]	0	0	0	0	0	0
Other Volum	e [veh/h]	0	0	0	0	0	0
Total Hourly Vol	ume [veh/h]	670	44	24	626	90	41
Peak Hour	Factor	0.9600	0.9600	0.9600	0.9600	0.9600	0.9600
Other Adjustm	ent Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute V	olume [veh/h]	174	11	6	163	23	11
Total Analysis Vo	lume [veh/h]	698	46	25	652	94	43
Pedestrian Volu	ime [ped/h]	()		D	()

Version 7.00-06

Intersection Settings

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.00	0.03	0.01	0.65	0.10
d_M, Delay for Movement [s/veh]	0.00	0.00	9.34	0.00	61.80	45.27
Movement LOS	A	A	A	A	F	E
95th-Percentile Queue Length [veh/In]	0.00	0.00	0.09	0.00	4.23	4.23
95th-Percentile Queue Length [ft/ln]	0.00	0.00	2.26	0.00	105.75	105.75
d_A, Approach Delay [s/veh]	0.00 0.34 56.61				.61	
Approach LOS	A A F				:	
d_I, Intersection Delay [s/veh]	5.13					
Intersection LOS			I	=		

Duckhorn Vineyards TIS

Friday P	M Baseline
----------	------------

Duckhorn Vineyards TIS Friday PM Baseline

1

Generated with	PTV	VISTRO
Version 7.00-06		

		Intersection	2: Silverado Tra	il/Lodi Ln				
Control Type: Analysis Method: Analysis Period:	Two-way stop HCM 6th Edition 15 minutes			Delay Leve Volume t	y (sec / veh): I Of Service: o Capacity (v/c):	15.6 C		
Intersection Setup		0.1		0.1				
Nam	e	Silvera	do Irail	Silvera	do Irail	Loc	i Ln	
Approa	ach	North	bound	South	bound	Easti	ound	
Lane Config	guration	+			•	1	→	
Turning Mo	vement	Left	Thru	Thru	Right	Left	Right	
Lane Wid	lth [ft]	12.00	12.00	12.00	12.00	12.00	12.00	
No. of Lanes	in Pocket	0	0	0	0	0	0	
Pocket Ler	ngth [ft]	100.00	100.00	100.00	100.00	100.00	100.00	
Speed [r	nph]	50.	.00	50	.00	40	.00	
Grade	[%]	0.0	00	0.00		0.	0.00	
Crossw	valk	N	lo	No		N	No	
Volumes								
Nam	e	Silvera	do Trail	Silvera	do Trail	Lod	i Ln	
Base Volume Ir	nput [veh/h]	65	299	265	51	33	49	
Base Volume Adju	stment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	
Heavy Vehicles P	ercentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	
Growth F	actor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	
In-Process Volu	ume [veh/h]	0	0	0	0	0	0	
Site-Generated	Trips [veh/h]	0	0	0	0	0	0	
Diverted Trip	s [veh/h]	0	0	0	0	0	0	
Pass-by Trip	s [veh/h]	0	0	0	0	0	0	
Existing Site Adjustme	ent Volume [veh/h]	0	0	0	0	0	0	
Other Volum	e [veh/h]	0	0	0	0	0	0	
Total Hourly Vol	ume [veh/h]	65	299	265	51	33	49	
Peak Hour	Factor	0.9600	0.9600	0.9600	0.9600	0.9600	0.9600	
Other Adjustm	ent Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	
Total 15-Minute V	olume [veh/h]	17	78	69	13	9	13	
Total Analysis Vo	lume [veh/h]	68	311	276	53	34	51	
Pedestrian Volu	ume [ped/h]	(D		0	()	

Version 7.00-06

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			Yes
Storage Area [veh]	0	0	1
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.06	0.00	0.00	0.00	0.10	0.07
d_M, Delay for Movement [s/veh]	8.10	0.00	0.00	0.00	15.60	10.32
Movement LOS	A	A	A	A	С	В
95th-Percentile Queue Length [veh/ln]	0.18	0.18	0.00	0.00	0.32	0.32
95th-Percentile Queue Length [ft/ln]	4.38	4.38	0.00	0.00	7.95	7.95
d_A, Approach Delay [s/veh]	1.45 0.00 12.43			.43		
Approach LOS	A A B				3	
d_l, Intersection Delay [s/veh]	2.03					
Intersection LOS			(0		

Duckhorn Vineyards TIS

Friday PM Baseline	
--------------------	--

Duckhorn Vineyards TIS Friday PM Baseline

Generated with	PTV	VISTRO
Version 7.00-06		

		Intersection Intersect	Level Of Servic ion 1: SR 29/Lo	e Report di Ln			
Control Type: Analysis Method: Analysis Period:	Two-way stop HCM 6th Edition 15 minutes			Delay Leve Volume te	/ (sec / veh): l Of Service: o Capacity (v/c):	4 0.	1.6 E 354
Intersection Setup							
Nam	e	SR	29	SR	29	Lod	i Ln
Approa	ach	North	bound	South	bound	West	ound
Lane Config	guration	H	•	٦	I	٦	→
Turning Mo	vement	Thru	Right	Left	Thru	Left	Right
Lane Wid	lth [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes	in Pocket	0	0	1	0	0	0
Pocket Ler	ngth [ft]	100.00	100.00	90.00	100.00	100.00	100.00
Speed [r	nph]	50.	.00	50	.00	40	.00
Grade	[%]	0.0	00	0.00 0.00		00	
Crossw	alk	N	0	N	lo	No	
Volumes	·				·		
Nam	e	SR	29	SR	29	Lod	i Ln
Base Volume Ir	nput [veh/h]	672	32	33	654	46	18
Base Volume Adju	stment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles P	ercentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth F	actor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volu	ume [veh/h]	0	0	0	0	0	0
Site-Generated	Trips [veh/h]	0	0	0	0	0	0
Diverted Trip	s [veh/h]	0	0	0	0	0	0
Pass-by Trip	s [veh/h]	0	0	0	0	0	0
Existing Site Adjustme	ent Volume [veh/h]	0	0	0	0	0	0
Other Volum	e [veh/h]	0	0	0	0	0	0
Total Hourly Vol	ume [veh/h]	672	32	33	654	46	18
Peak Hour	Factor	0.9600	0.9600	0.9600	0.9600	0.9600	0.9600
Other Adjustm	ent Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute V	olume [veh/h]	175	8	9	170	12	5
Total Analysis Vo	lume [veh/h]	700	33	34	681	48	19
Pedestrian Volu	ume [ped/h]	C)	(D	()

Version 7.00-06

Intersection Settings

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.00	0.04	0.01	0.35	0.04
d_M, Delay for Movement [s/veh]	0.00	0.00	9.30	0.00	41.64	23.45
Movement LOS	A	A	A	A	E	С
95th-Percentile Queue Length [veh/In]	0.00	0.00	0.12	0.00	1.50	1.50
95th-Percentile Queue Length [ft/ln]	0.00	0.00	3.04	0.00	37.44	37.44
d_A, Approach Delay [s/veh]	0.00		0.44		36.	48
Approach LOS	A A			E	1	
d_I, Intersection Delay [s/veh]	1.82					
Intersection LOS	E					

Duckhorn Vineyards TIS

Saturday PM Baseline

Duckhorn Vineyards TIS Saturday PM Baseline W-Trans

Generated with	PTV	VISTRO
Version 7.00-06		

		Intersection	Level Of Servic 2: Silverado Tra	il/Lodi Ln			
Control Type: Analysis Method: Analysis Period:	Two-way stop HCM 6th Edition 15 minutes			Delay Leve Volume t	v (sec / veh): Of Service: Capacity (v/c):	1 0.	4.4 B 046
Intersection Setup							
Name	e	Silvera	do Trail	Silvera	do Trail	Loc	i Ln
Approa	ich	North	bound	South	bound	East	ound
Lane Config	juration	+		ŀ	•	٦	→
Turning Mo	vement	Left	Thru	Thru	Right	Left	Right
Lane Wid	th [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes	in Pocket	0	0	0	0	0	0
Pocket Ler	igth [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [r	nph]	50.	.00	50	.00	40	.00
Grade	[%]	0.	00	0.00 0.0		.00	
Crossw	alk	N	0	No		No	
Volumes					I		
Name	e	Silvera	do Trail	Silvera	do Trail	Lod	i Ln
Base Volume Ir	nput [veh/h]	35	296	253	33	16	35
Base Volume Adju	stment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Pe	ercentage [%]	3.00	3.00	3.00	3.00	3.00	3.00
Growth F	actor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volu	ıme [veh/h]	0	0	0	0	0	0
Site-Generated	Trips [veh/h]	0	0	0	0	0	0
Diverted Trip	s [veh/h]	0	0	0	0	0	0
Pass-by Trip	s [veh/h]	0	0	0	0	0	0
Existing Site Adjustme	nt Volume [veh/h]	0	0	0	0	0	0
Other Volum	e [veh/h]	0	0	0	0	0	0
Total Hourly Vol	ume [veh/h]	35	296	253	33	16	35
Peak Hour	Factor	0.9100	0.9100	0.9100	0.9100	0.9100	0.9100
Other Adjustm	ent Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute V	olume [veh/h]	10	81	70	9	4	10
Total Analysis Vo	lume [veh/h]	38	325	278	36	18	38
Pedestrian Volu	ime [ped/h]	()	()	()

Version 7.00-06

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			Yes
Storage Area [veh]	0	0	1
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.03	0.00	0.00	0.00	0.05	0.05
d_M, Delay for Movement [s/veh]	7.99	0.00	0.00	0.00	14.40	10.04
Movement LOS	A	A	A	A	В	В
95th-Percentile Queue Length [veh/ln]	0.09	0.09	0.00	0.00	0.16	0.16
95th-Percentile Queue Length [ft/ln]	2.37	2.37	0.00	0.00	4.05	4.05
d_A, Approach Delay [s/veh]	0.	84	0.	00	11.	44
Approach LOS	A A B			3		
d_l, Intersection Delay [s/veh]	1.29					
Intersection LOS	В					

Duckhorn Vineyards TIS

Saturday	РM	Baseline	
,			

W-Trans 4

Duckhorn Vineyards TIS Saturday PM Baseline

Generated with	PTV	VISTRO
Version 7.00-06		

		Intersection	Level Of Servic tion 1: SR 29/Lo	ce Report di Ln				
Control Type: Analysis Method: Analysis Period:	Two-way stop HCM 6th Edition 15 minutes			Delay (sec / veh): Level Of Service: Volume to Capacity (v/c):		37	374.3 F 1.400	
Intersection Setup								
Name	e	SR	29	SF	29	Lod	i Ln	
Approa	ich	North	bound	South	ibound	West	oound	
Lane Config	juration	ŀ	•	1	1	٦	-	
Turning Mo	vement	Thru	Right	Left	Thru	Left	Right	
Lane Wid	th [ft]	12.00	12.00	12.00	12.00	12.00	12.00	
No. of Lanes	in Pocket	0	0	1	0	0	0	
Pocket Ler	igth [ft]	100.00	100.00	90.00	100.00	100.00	100.00	
Speed [r	nph]	50	.00	50	.00	40	.00	
Grade	[%]	0.	00	0.00		0.00		
Crossw	alk	N	lo	No		No		
Volumes					I			
Name	e	SR	29	SR 29		Lodi Ln		
Base Volume Ir	nput [veh/h]	667	40	22	622	85	37	
Base Volume Adju	stment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	
Heavy Vehicles P	ercentage [%]	4.00	4.00	4.00	4.00	4.00	4.00	
Growth F	actor	1.4600	1.1050	1.1050	1.4600	1.1050	1.1050	
In-Process Volu	ıme [veh/h]	0	0	0	0	0	0	
Site-Generated	Trips [veh/h]	0	0	0	0	0	0	
Diverted Trip	s [veh/h]	0	0	0	0	0	0	
Pass-by Trip	s [veh/h]	0	0	0	0	0	0	
Existing Site Adjustme	nt Volume [veh/h]	0	0	0	0	0	0	
Other Volum	e [veh/h]	0	0	0	0	0	0	
Total Hourly Vol	ume [veh/h]	974	44	24	908	94	41	
Peak Hour	Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	
Other Adjustm	ent Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	
Total 15-Minute V	olume [veh/h]	244	11	6	227	24	10	
Total Analysis Vo	lume [veh/h]	974	44	24	908	94	41	
Pedestrian Volu	ime [ped/h]	()		0	()	

Version 7.00-06

Intersection Settings

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.00	0.04	0.01	1.40	0.14
d_M, Delay for Movement [s/veh]	0.00	0.00	10.54	0.00	374.34	332.97
Movement LOS	A	A	В	A	F	F
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.11	0.00	10.51	10.51
95th-Percentile Queue Length [ft/ln]	0.00	0.00	2.77	0.00	262.76	262.76
d_A, Approach Delay [s/veh]	0.	0.00 0.27		361.78		
Approach LOS	A A			F	:	
d_I, Intersection Delay [s/veh]	23.55					
Intersection LOS		F				

Duckhorn Vineyards TIS

Friday	РM	Future
rnuay		rulure

Duckhorn Vineyards TIS

Friday PM Future

W-Trans 1

Generated with	PTV	VISTRO
Version 7.00-06		

		Intersection	Level Of Servic 2: Silverado Tra	e Report il/Lodi Ln			
Control Type: Analysis Method: Analysis Period:	Two-way stop HCM 6th Edition 15 minutes			Delay (sec / veh): Level Of Service: Volume to Capacity (v/c):		19.2 C 0.130	
Intersection Setup							
Name	e	Silvera	do Trail	Silvera	do Trail	Lod	i Ln
Approa	ich	North	bound	South	bound	Eastb	ound
Lane Config	guration	÷		l I	+	٦	➡
Turning Mo	vement	Left	Thru	Thru	Right	Left	Right
Lane Wid	th [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes	in Pocket	0	0	0	0	0	0
Pocket Ler	igth [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [r	nph]	50	.00	50	.00	40.00	
Grade	[%]	0.0	00	0.00		0.00	
Crossw	alk	N	0	No		No	
/olumes							
Name	9	Silvera	do Trail	Silvera	do Trail	Lodi Ln	
Base Volume Ir	nput [veh/h]	63	299	265	50	32	46
Base Volume Adju	stment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Pe	ercentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth F	actor	1.1050	1.3700	1.3700	1.1050	1.1050	1.1050
In-Process Volu	ime [veh/h]	0	0	0	0	0	0
Site-Generated	Trips [veh/h]	0	0	0	0	0	0
Diverted Trip	s [veh/h]	0	0	0	0	0	0
Pass-by Trip	s [veh/h]	0	0	0	0	0	0
Existing Site Adjustme	nt Volume [veh/h]	0	0	0	0	0	0
Other Volum	e [veh/h]	0	0	0	0	0	0
Total Hourly Vol	ume [veh/h]	70	410	363	55	35	51
Peak Hour	Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustm	ent Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute V	olume [veh/h]	18	103	91	14	9	13
Total Analysis Vo	lume [veh/h]	70	410	363	55	35	51
Pedestrian Volu	ime [ped/h]	()		0	()

Version 7.00-06

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			Yes
Storage Area [veh]	0	0	1
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.06	0.00	0.00	0.00	0.13	0.08
d_M, Delay for Movement [s/veh]	8.36	0.00	0.00	0.00	19.19	11.28
Movement LOS	A	A	A	A	С	В
95th-Percentile Queue Length [veh/ln]	0.20	0.20	0.00	0.00	0.45	0.45
95th-Percentile Queue Length [ft/ln]	4.89	4.89	0.00	0.00	11.14	11.14
d_A, Approach Delay [s/veh]	1.22 0.00 14.50			.50		
Approach LOS	A A B			3		
d_l, Intersection Delay [s/veh]	1.86					
Intersection LOS				C		

Duckhorn Vineyards TIS

Friday PM Futu	re
----------------	----

Duckhorn Vineyards TIS Friday PM Future

Generated with	PTV	VISTRO
Version 7.00-06		

		Intersection	Level Of Servic	e Report			
Control Type: Analysis Method: Analysis Period:	Two-way stop HCM 6th Edition 15 minutes	intersect	1011 1. OK 20/20	Delay (sec / veh): Level Of Service: Volume to Capacity (v/c):		138.3 F 0.706	
Intersection Setup							
Name	e	SR	29	SF	29	Loc	li Ln
Approa	ch	North	bound	South	bound	West	bound
Lane Config	uration	H	•	۳	I	٦	F
Turning Mo	vement	Thru	Right	Left	Thru	Left	Right
Lane Wid	th [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes	in Pocket	0	0	1	0	0	0
Pocket Ler	gth [ft]	100.00	100.00	90.00	100.00	100.00	100.00
Speed [r	nph]	50.	.00	50	.00	40	.00
Grade	%]	0.0	00	0.00		0.00	
Crossw	alk	N	0	No		No	
Volumes	1						
Name	e	SR	29	SR 29		Lodi Ln	
Base Volume Ir	iput [veh/h]	686	22	27	649	39	13
Base Volume Adju	stment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles P	ercentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth F	actor	1.4600	1.1050	1.1050	1.4600	1.1050	1.1050
In-Process Volu	ime [veh/h]	0	0	0	0	0	0
Site-Generated	Trips [veh/h]	0	0	0	0	0	0
Diverted Trip	s [veh/h]	0	0	0	0	0	0
Pass-by Trip	s [veh/h]	0	0	0	0	0	0
Existing Site Adjustme	nt Volume [veh/h]	0	0	0	0	0	0
Other Volum	e [veh/h]	0	0	0	0	0	0
Total Hourly Vol	ume [veh/h]	1002	24	30	948	43	14
Peak Hour	Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustm	ent Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute V	olume [veh/h]	251	6	8	237	11	4
Total Analysis Vo	lume [veh/h]	1002	24	30	948	43	14
Pedestrian Volu	me [ned/h]	()	<u> </u>	0)

Version 7.00-06

Intersection Settings

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.00	0.04	0.01	0.71	0.05
d_M, Delay for Movement [s/veh]	0.00	0.00	10.57	0.00	138.33	91.63
Movement LOS	A	A	В	A	F	F
95th-Percentile Queue Length [veh/In]	0.00	0.00	0.14	0.00	3.45	3.45
95th-Percentile Queue Length [ft/In]	0.00	0.00	3.47	0.00	86.23	86.23
d_A, Approach Delay [s/veh]	0	.00	0.	32	126	.86
Approach LOS		A		A	F	:
d_I, Intersection Delay [s/veh]			3.	66		
Intersection LOS			I	F		

Duckhorn Vineyards TIS

Coturdou	DM	Euturo
Saturday	РМ	Future

W-Trans 2

Duckhorn Vineyards TIS Saturday PM Future W-Trans

Generated with	PTV	VISTRO
Version 7.00-06		

		Intersection	2: Silverado Tra	il/Lodi Ln			
Control Type: Analysis Method: Analysis Period:	Two-way stop HCM 6th Edition 15 minutes			Delay Leve Volume t	/ (sec / veh): l Of Service: o Capacity (v/c):	1 0.	6.3 C 053
Intersection Setup							
Name		Silvera	do Trail	Silvera	do Trail	Loc	i Ln
Approa	ch	North	bound	South	bound	East	ound
Lane Config	juration	+		ŀ	•	٦	→
Turning Mo	vement	Left	Thru	Thru	Right	Left	Right
Lane Wid	th [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes	in Pocket	0	0	0	0	0	0
Pocket Ler	gth [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [r	nph]	50.	.00	50	.00	40	.00
Grade	%]	0.0	00	0.	00	0.	00
Crossw	alk	N	0	N	lo	N	lo
Volumes					I		
Name	e	Silvera	do Trail	Silvera	do Trail	Loc	i Ln
Base Volume Ir	iput [veh/h]	30	296	253	31	15	31
Base Volume Adju	stment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Pe	ercentage [%]	3.00	3.00	3.00	3.00	3.00	3.00
Growth F	actor	1.1050	1.3700	1.3700	1.1050	1.1050	1.1050
In-Process Volu	ime [veh/h]	0	0	0	0	0	0
Site-Generated	Trips [veh/h]	0	0	0	0	0	0
Diverted Trip	s [veh/h]	0	0	0	0	0	0
Pass-by Trip	s [veh/h]	0	0	0	0	0	0
Existing Site Adjustme	nt Volume [veh/h]	0	0	0	0	0	0
Other Volum	e [veh/h]	0	0	0	0	0	0
Total Hourly Vol	ume [veh/h]	33	406	347	34	17	34
Peak Hour	Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustm	ent Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute V	olume [veh/h]	8	102	87	9	4	9
Total Analysis Vo	lume [veh/h]	33	406	347	34	17	34
Pedestrian Volu	me [ped/h]	()	(D	()

Version 7.00-06

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			Yes
Storage Area [veh]	0	0	1
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.03	0.00	0.00	0.00	0.05	0.05
d_M, Delay for Movement [s/veh]	8.16	0.00	0.00	0.00	16.33	10.51
Movement LOS	A	A	A	A	С	В
95th-Percentile Queue Length [veh/In]	0.09	0.09	0.00	0.00	0.17	0.17
95th-Percentile Queue Length [ft/ln]	2.17	2.17	0.00	0.00	4.15	4.15
d_A, Approach Delay [s/veh]	0.	61	0.	00	12.	45
Approach LOS	4	4		A	E	3
d_l, Intersection Delay [s/veh]			1.	04		
Intersection LOS				C		

Duckhorn Vineyards TIS

Saturday PM Future	
--------------------	--

W-Trans 4

Duckhorn Vineyards TIS Saturday PM Future

Generated with	PTV	VISTRO
Version 7.00-06		

		Intersection	Level Of Servic	e Report di I n			
Control Type: Analysis Method:	Two-way stop HCM 6th Edition	intersect	1011 1. OK 25/20	Delay Leve	(sec / veh): Of Service:	5	7.3 F
Analysis Period:	15 minutes			Volume t	o Capacity (v/c):	0.	614
Intersection Setup							
Name	e	SR	29	SR	29	Lod	i Ln
Approa	ich	North	bound	South	bound	West	oound
Lane Config	guration	F	*	٦	1	٦	➡
Turning Mo	vement	Thru	Right	Left	Thru	Left	Right
Lane Wid	th [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes	in Pocket	0	0	1	0	0	0
Pocket Ler	igth [ft]	100.00	100.00	90.00	100.00	100.00	100.00
Speed [r	nph]	50	.00	50	.00	40	.00
Grade	[%]	0.0	00	0.	00	0.	00
Crossw	alk	N	0	N	0	N	lo
Volumes							
Name	e	SR	29	SR	29	Lod	i Ln
Base Volume Ir	nput [veh/h]	667	40	22	622	85	37
Base Volume Adju	stment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Pe	ercentage [%]	4.00	4.00	4.00	4.00	4.00	4.00
Growth F	actor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volu	ime [veh/h]	0	0	0	0	0	0
Site-Generated	Trips [veh/h]	0	3	3	0	0	2
Diverted Trip	s [veh/h]	0	0	0	0	0	0
Pass-by Trip	s [veh/h]	0	0	0	0	0	0
Existing Site Adjustme	nt Volume [veh/h]	0	0	0	0	0	0
Other Volum	e [veh/h]	0	0	0	0	0	0
Total Hourly Vol	ume [veh/h]	667	43	25	622	85	39
Peak Hour	Factor	0.9600	0.9600	0.9600	0.9600	0.9600	0.9600
Other Adjustm	ent Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute V	olume [veh/h]	174	11	7	162	22	10
Total Analysis Vo	lume [veh/h]	695	45	26	648	89	41
Pedestrian Volu	ime [ped/h]	()	()	()

Version 7.00-06

Intersection Settings

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.00	0.03	0.01	0.61	0.10
d_M, Delay for Movement [s/veh]	0.00	0.00	9.33	0.00	57.31	40.91
Movement LOS	A	A	A	A	F	E
95th-Percentile Queue Length [veh/In]	0.00	0.00	0.09	0.00	3.81	3.81
95th-Percentile Queue Length [ft/ln]	0.00	0.00	2.34	0.00	95.14	95.14
d_A, Approach Delay [s/veh]	0.	00	0.	36	52.	.14
Approach LOS		4	/	4	F	:
d_I, Intersection Delay [s/veh]			4.	55		
Intersection LOS			F	=		

Duckhorn Vineyards TIS

Friday Pivi Existing + Project

W-Trans 2

Duckhorn Vineyards TIS Friday PM Existing + Project

Generated with	PTV	VISTRO
Version 7.00-06		

		Intersection	Level Of Servic 2: Silverado Tra	e Report il/Lodi Ln			
Control Type: Analysis Method: Analysis Period:	Two-way stop HCM 6th Edition 15 minutes			Delay Level Volume to	v (sec / veh): Of Service: o Capacity (v/c):	15.6 C 0.094	
Intersection Setup							
Name		Silvera	do Trail	Silvera	do Trail	Lod	i Ln
Approa	ich	North	bound	South	bound	Eastb	ound
Lane Config	juration	÷	1	ŀ	•	٦	→
Turning Mo	vement	Left	Thru	Thru	Right	Left	Right
Lane Wid	th [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes	in Pocket	0	0	0	0	0	0
Pocket Ler	igth [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [r	nph]	50	.00	50	.00	40	.00
Grade	[%]	0.0	00	0.0	00	0.00	
Crossw	alk	N	0	No		No	
Volumes							
Name	e	Silvera	do Trail	Silvera	do Trail	Lod	i Ln
Base Volume Ir	nput [veh/h]	63	299	265	50	32	46
Base Volume Adju	stment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles P	ercentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth F	actor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volu	ıme [veh/h]	0	0	0	0	0	0
Site-Generated	Trips [veh/h]	3	0	0	1	0	5
Diverted Trip	s [veh/h]	0	0	0	0	0	0
Pass-by Trip	s [veh/h]	0	0	0	0	0	0
Existing Site Adjustme	nt Volume [veh/h]	0	0	0	0	0	0
Other Volum	e [veh/h]	0	0	0	0	0	0
Total Hourly Vol	ume [veh/h]	66	299	265	51	32	51
Peak Hour	Factor	0.9600	0.9600	0.9600	0.9600	0.9600	0.9600
Other Adjustm	ent Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute V	olume [veh/h]	17	78	69	13	8	13
Total Analysis Vo	lume [veh/h]	69	311	276	53	33	53
Pedestrian Volu	ime [ped/h]	()	()	()

Version 7.00-06

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			Yes
Storage Area [veh]	0	0	1
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

1//0 M	0.00	0.00	0.00	0.00	0.00	0.07
V/C, Movement V/C Ratio	0.06	0.00	0.00	0.00	0.09	0.07
d_M, Delay for Movement [s/veh]	8.10	0.00	0.00	0.00	15.61	10.29
Movement LOS	A	A	A	A	С	В
95th-Percentile Queue Length [veh/ln]	0.18	0.18	0.00	0.00	0.31	0.31
95th-Percentile Queue Length [ft/In]	4.45	4.45	0.00	0.00	7.72	7.72
d_A, Approach Delay [s/veh]	1.47		0	.00	12	.33
Approach LOS	A A B			3		
d_I, Intersection Delay [s/veh]	2.04					
Intersection LOS				С		

Duckhorn Vineyards TIS

Friday PM	Existing +	Project
1 11009 1 111	Exact ang	

W-Trans 4

Duckhorn Vineyards TIS Friday PM Existing + Project

Generated with	PTV	VISTRO
Version 7.00-06		

		Intersection	Level Of Servic	e Report			
Control Type: Analysis Method: Analysis Period:	Two-way stop HCM 6th Edition 15 minutes	intersect	1011 1. SK 23/20	Delay Leve Volume t	/ (sec / veh): I Of Service: o Capacity (v/c):	3 0.:	9.1 E 299
Intersection Setup							
Name	e	SR	29	SR	29	Lod	i Ln
Approa	ch	North	bound	South	bound	West	oound
Lane Config	uration	H	•	٦	1	٦	→
Turning Mo	vement	Thru	Right	Left	Thru	Left	Right
Lane Wid	th [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes	in Pocket	0	0	1	0	0	0
Pocket Ler	gth [ft]	100.00	100.00	90.00	100.00	100.00	100.00
Speed [r	nph]	50.	.00	50	.00	40	.00
Grade	%]	0.0	00	0.	00	0.00	
Crossw	alk	N	0	No		No	
Volumes							
Name	e	SR	29	SR	29	Lod	i Ln
Base Volume Ir	iput [veh/h]	686	22	27	649	39	13
Base Volume Adju	stment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Pe	ercentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth F	actor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volu	ime [veh/h]	0	0	0	0	0	0
Site-Generated	Trips [veh/h]	0	1	1	0	0	2
Diverted Trip	s [veh/h]	0	0	0	0	0	0
Pass-by Trip	s [veh/h]	0	0	0	0	0	0
Existing Site Adjustme	nt Volume [veh/h]	0	0	0	0	0	0
Other Volum	e [veh/h]	0	0	0	0	0	0
Total Hourly Vol	ume [veh/h]	686	23	28	649	39	15
Peak Hour	Factor	0.9600	0.9600	0.9600	0.9600	0.9600	0.9600
Other Adjustm	ent Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute V	olume [veh/h]	179	6	7	169	10	4
Total Analysis Vo	lume [veh/h]	715	24	29	676	41	16
Pedestrian Volu	me [ped/h]	()	(D	()

Version 7.00-06

Intersection Settings

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

Movement, Approach, & Intersection Results

V//C Mevement V//C Batia	0.01	0.00	0.02	0.01	0.20	0.04
V/C, Movement V/C Ratio	0.01	0.00	0.03	0.01	0.30	0.04
d_M, Delay for Movement [s/veh]	0.00	0.00	9.29	0.00	39.08	21.34
Movement LOS	A	A	A	A	E	С
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.10	0.00	1.19	1.19
95th-Percentile Queue Length [ft/In]	0.00	0.00	2.59	0.00	29.83	29.83
d_A, Approach Delay [s/veh]	0.00		0.	38	34	.10
Approach LOS	A A D)		
d_I, Intersection Delay [s/veh]	1.47					
Intersection LOS			E	E		

Duckhorn Vineyards TIS

Saturday PM Existing + Project

W-Trans

1

Duckhorn Vineyards TIS Saturday PM Existing + Project

Generated with	PTV	VISTRO
Version 7.00-06		

		Intersection	Level Of Servic 2: Silverado Tra	il/Lodi Ln			
Control Type: Analysis Method: Analysis Period:	Two-way stop HCM 6th Edition 15 minutes	Delay (sec / veh): Level Of Service: Volume to Capacity (v/c):		14.3 B 0.040			
Intersection Setup							
Name	•	Silvera	do Trail	Silvera	do Trail	Loc	li Ln
Approa	ch	North	bound	South	bound	East	ound
Lane Config	juration	+		ŀ	•	٦	₽
Turning Mo	vement	Left	Thru	Thru	Right	Left	Right
Lane Wid	th [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes	in Pocket	0	0	0	0	0	0
Pocket Len	gth [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [n	nph]	50.	.00	50	.00	40	.00
Grade [%]	0.0	00	0.	00	0.00	
Crossw	alk	N	0	N	lo	No	
Volumes	I				I		
Name	•	Silvera	do Trail	Silvera	do Trail	Loc	li Ln
Base Volume In	iput [veh/h]	30	296	253	31	15	31
Base Volume Adju	stment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Pe	ercentage [%]	3.00	3.00	3.00	3.00	3.00	3.00
Growth F	actor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volu	ime [veh/h]	0	0	0	0	0	0
Site-Generated	Trips [veh/h]	2	0	0	1	0	4
Diverted Trip	s [veh/h]	0	0	0	0	0	0
Pass-by Trip	s [veh/h]	0	0	0	0	0	0
Existing Site Adjustme	nt Volume [veh/h]	0	0	0	0	0	0
Other Volume	e [veh/h]	0	0	0	0	0	0
Total Hourly Vol	ume [veh/h]	32	296	253	32	15	35
Peak Hour	Factor	0.9100	0.9100	0.9100	0.9100	0.9100	0.9100
Other Adjustme	ent Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Ve	olume [veh/h]	9	81	70	9	4	10
Total Analysis Vo	lume [veh/h]	35	325	278	35	16	38
Pedestrian Volu	me [ped/h]	()		0	()

Version 7.00-06

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			Yes
Storage Area [veh]	0	0	1
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.03	0.00	0.00	0.00	0.04	0.05
d_M, Delay for Movement [s/veh]	7.98	0.00	0.00	0.00	14.30	10.04
Movement LOS	A	A	A	A	В	В
95th-Percentile Queue Length [veh/ln]	0.09	0.09	0.00	0.00	0.16	0.16
95th-Percentile Queue Length [ft/ln]	2.17	2.17	0.00	0.00	4.05	4.05
d_A, Approach Delay [s/veh]	0.78 0.00 11.30				30	
Approach LOS	A A B				3	
d_l, Intersection Delay [s/veh]	1.22					
Intersection LOS				В		

Duckhorn Vineyards TIS

Saturday PM Existing + Proj	ect
-----------------------------	-----

Duckhorn Vineyards TIS Saturday PM Existing + Project W-Trans

Generated with	PTV	VISTRO
Version 7.00-06		

		Intersection	Level Of Servic	e Report di I n			
Control Type: Analysis Method: Analysis Period:	Two-way stop HCM 6th Edition 15 minutes	intersect		Delay Leve Volume t	y (sec / veh): I Of Service: o Capacity (v/c):	6 0.	3.4 F 663
Intersection Setup							
Name	e	SR	29	SR	29	Lod	i Ln
Approa	ch	North	ound	South	bound	West	ound
Lane Config	juration	ŀ	•	٦	I	٦	→
Turning Mo	vement	Thru	Right	Left	Thru	Left	Right
Lane Wid	th [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes	in Pocket	0	0	1	0	0	0
Pocket Ler	gth [ft]	100.00	100.00	90.00	100.00	100.00	100.00
Speed [r	nph]	50.	00	50	.00	40	.00
Grade	%]	0.	00	0.	00	0.	00
Crossw	alk	N	0	N	lo	N	lo
Volumes							
Name	e	SR	29	SR	29	Lod	i Ln
Base Volume Ir	iput [veh/h]	670	44	24	626	90	41
Base Volume Adju	stment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles P	ercentage [%]	4.00	4.00	4.00	4.00	4.00	4.00
Growth F	actor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volu	ime [veh/h]	0	0	0	0	0	0
Site-Generated	Trips [veh/h]	0	3	3	0	0	2
Diverted Trip	s [veh/h]	0	0	0	0	0	0
Pass-by Trip	s [veh/h]	0	0	0	0	0	0
Existing Site Adjustme	nt Volume [veh/h]	0	0	0	0	0	0
Other Volum	e [veh/h]	0	0	0	0	0	0
Total Hourly Vol	ume [veh/h]	670	47	27	626	90	43
Peak Hour	Factor	0.9600	0.9600	0.9600	0.9600	0.9600	0.9600
Other Adjustm	ent Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute V	olume [veh/h]	174	12	7	163	23	11
Total Analysis Vo	lume [veh/h]	698	49	28	652	94	45
Pedestrian Volu	me (ped/h)	()		0	()

Version 7.00-06

Intersection Settings

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

Movement, Approach, & Intersection Results

V/C Movement V/C Patio	0.01	0.00	0.02	0.01	0.66	0.11
V/C, MOVEMENT V/C IVato	0.01	0.00	0.03	0.01	0.00	0.11
d_M, Delay for Movement [s/veh]	0.00	0.00	9.37	0.00	63.38	46.51
Movement LOS	A	A	A	A	F	E
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.10	0.00	4.35	4.35
95th-Percentile Queue Length [ft/In]	0.00	0.00	2.54	0.00	108.72	108.72
d_A, Approach Delay [s/veh]	0.00 0.39 57.92				.92	
Approach LOS	A A F				=	
d_l, Intersection Delay [s/veh]	5.31					
Intersection LOS			I	F		

Duckhorn Vineyards TIS

Duckhorn Vineyards TIS Friday PM Baseline + Project W-Trans

Generated with	PTV	VISTRO
Version 7.00-06		

		Intersection Intersection 2	Level Of Servic 2: Silverado Tra	e Report il/Lodi Ln			
Control Type: Analysis Method: Analysis Period:	Two-way stop HCM 6th Edition 15 minutes			Delay (sec / veh): 15.7 Level Of Service: C Volume to Capacity (v/c): 0.097			
Intersection Setup							
Nam	e	Silvera	do Trail	Silvera	do Trail	Lod	i Ln
Approa	ich	North	ound	South	bound	Eastb	ound
Lane Config	juration	+		ŀ	•	٦	→
Turning Mo	vement	Left	Thru	Thru	Right	Left	Right
Lane Wid	th [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes	in Pocket	0	0	0	0	0	0
Pocket Ler	igth [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [r	nph]	50.	00	50	.00	40	.00
Grade	[%]	0.0	00	0.00		0.00	
Crossw	alk	N	0	No		No	
Volumes							
Nam	e	Silvera	do Trail	Silvera	do Trail	Lod	i Ln
Base Volume Ir	nput [veh/h]	65	299	265	51	33	49
Base Volume Adju	stment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles P	ercentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth F	actor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volu	ime [veh/h]	0	0	0	0	0	0
Site-Generated	Trips [veh/h]	3	0	0	1	0	5
Diverted Trip	s [veh/h]	0	0	0	0	0	0
Pass-by Trip	s [veh/h]	0	0	0	0	0	0
Existing Site Adjustme	nt Volume [veh/h]	0	0	0	0	0	0
Other Volum	e [veh/h]	0	0	0	0	0	0
Total Hourly Vol	ume [veh/h]	68	299	265	52	33	54
Peak Hour	Factor	0.9600	0.9600	0.9600	0.9600	0.9600	0.9600
Other Adjustm	ent Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute V	olume [veh/h]	18	78	69	14	9	14
Total Analysis Vo	lume [veh/h]	71	311	276	54	34	56
Pedestrian Volu	ime [ped/h]	()	()	()

Version 7.00-06

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			Yes
Storage Area [veh]	0	0	1
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.06	0.00	0.00	0.00	0.10	0.08
d_M, Delay for Movement [s/veh]	8.11	0.00	0.00	0.00	15.71	10.31
Movement LOS	A	A	A	A	С	В
95th-Percentile Queue Length [veh/ln]	0.18	0.18	0.00	0.00	0.32	0.32
95th-Percentile Queue Length [ft/In]	4.59	4.59	0.00	0.00	8.05	8.05
d_A, Approach Delay [s/veh]	1.51 0.00 12.35				35	
Approach LOS	A A B				3	
d_I, Intersection Delay [s/veh]	2.10					
Intersection LOS			(0		

Duckhorn Vineyards TIS

Friday PM Baseline + Project	ct
------------------------------	----

Duckhorn Vineyards TIS Friday PM Baseline + Project W-Trans

Generated with	PTV	VISTRO
Version 7.00-06		

		Intersection Intersect	Level Of Servic ion 1: SR 29/Lo	e Report di Ln				
Control Type: Analysis Method: Analysis Period:	Two-way stop HCM 6th Edition 15 minutes			Delay Leve Volume t	/ (sec / veh): I Of Service: o Capacity (v/c):	4	1.6 E 356	
Intersection Setup								
Name	e	SR	29	SR	29	Lod	i Ln	
Approa	ich	North	ound	South	bound	Westbound		
Lane Config	guration	H	•	٦	1	٦	-	
Turning Mo	vement	Thru	Right	Left	Thru	Left	Right	
Lane Wid	th [ft]	12.00	12.00	12.00	12.00	12.00	12.00	
No. of Lanes	in Pocket	0	0	1	0	0	0	
Pocket Ler	igth [ft]	100.00	100.00	90.00	100.00	100.00	100.00	
Speed [r	nph]	50.	00	50.00		40	40.00	
Grade	[%]	0.0	00	0.00 0.0		0.00		
Crossw	alk	N	0	No		No		
Volumes	I							
Name	e	SR	29	SR	29	Lod	i Ln	
Base Volume Ir	nput [veh/h]	672	32	33	654	46	18	
Base Volume Adju	stment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	
Heavy Vehicles P	ercentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	
Growth F	actor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	
In-Process Volu	ime [veh/h]	0	0	0	0	0	0	
Site-Generated	Trips [veh/h]	0	1	1	0	0	2	
Diverted Trip	s [veh/h]	0	0	0	0	0	0	
Pass-by Trip	s [veh/h]	0	0	0	0	0	0	
Existing Site Adjustme	nt Volume [veh/h]	0	0	0	0	0	0	
Other Volum	e [veh/h]	0	0	0	0	0	0	
Total Hourly Vol	ume [veh/h]	672	33	34	654	46	20	
Peak Hour	Factor	0.9600	0.9600	0.9600	0.9600	0.9600	0.9600	
Other Adjustm	ent Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	
Total 15-Minute V	olume [veh/h]	175	9	9	170	12	5	
Total Analysis Vo	lume [veh/h]	700	34	35	681	48	21	
Pedestrian Volu	ime [ped/h]	()	(0	()	

Version 7.00-06

Intersection Settings

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

Movement, Approach, & Intersection Results

1//0 Marrier 11//0 D-fin	0.04	0.00	0.04	0.04	0.00	0.05
V/C, Movement V/C Ratio	0.01	0.00	0.04	0.01	0.36	0.05
d_M, Delay for Movement [s/veh]	0.00	0.00	9.31	0.00	41.59	23.29
Movement LOS	A	A	A	A	E	С
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.13	0.00	1.51	1.51
95th-Percentile Queue Length [ft/ln]	0.00	0.00	3.14	0.00	37.76	37.76
d_A, Approach Delay [s/veh]	0	.00	0.45		36.	.02
Approach LOS	A A E			1		
d_I, Intersection Delay [s/veh]	1.85					
Intersection LOS			E	E		

Duckhorn Vineyards TIS

Saturday PM Baseline + Project

Duckhorn Vineyards TIS Saturday PM Baseline + Project W-Trans 1

iject

Generated with	PTV	VISTRO
Version 7.00-06		

		Intersection	Level Of Servic 2: Silverado Tra	e Report il/Lodi Ln			
Control Type: Analysis Method: Analysis Period:	Two-way stop HCM 6th Edition 15 minutes			Delay Level Volume te	/ (sec / veh): I Of Service: o Capacity (v/c):	14 0.4	4.5 B 047
Intersection Setup							
Name		Silvera	do Trail	Silvera	do Trail	Lod	i Ln
Approa	ch	North	bound	South	bound	Eastbound	
Lane Config	juration	+		ŀ	•	٦	→
Turning Mo	vement	Left	Thru	Thru	Right	Left	Right
Lane Wid	th [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes	in Pocket	0	0	0	0	0	0
Pocket Ler	gth [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [r	nph]	50.	.00	50.00 4		40	.00
Grade	%]	0.0	00	0.00 0.1		0.00	
Crossw	alk	N	0	No		No	
Volumes	1				I		
Name	e	Silvera	do Trail	Silvera	do Trail	Lod	i Ln
Base Volume Ir	iput [veh/h]	35	296	253	33	16	35
Base Volume Adju	stment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Pe	ercentage [%]	3.00	3.00	3.00	3.00	3.00	3.00
Growth F	actor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volu	ime [veh/h]	0	0	0	0	0	0
Site-Generated	Trips [veh/h]	2	0	0	1	0	4
Diverted Trip	s [veh/h]	0	0	0	0	0	0
Pass-by Trip	s [veh/h]	0	0	0	0	0	0
Existing Site Adjustme	nt Volume [veh/h]	0	0	0	0	0	0
Other Volum	e [veh/h]	0	0	0	0	0	0
Total Hourly Vol	ume [veh/h]	37	296	253	34	16	39
Peak Hour	Factor	0.9100	0.9100	0.9100	0.9100	0.9100	0.9100
Other Adjustm	ent Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute V	olume [veh/h]	10	81	70	9	4	11
Total Analysis Vo	lume [veh/h]	41	325	278	37	18	43
Pedestrian Volu	me [ped/h]	()	(D	()

Version 7.00-06

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			Yes
Storage Area [veh]	0	0	1
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

		1	1			
V/C, Movement V/C Ratio	0.03	0.00	0.00	0.00	0.05	0.06
d_M, Delay for Movement [s/veh]	8.00	0.00	0.00	0.00	14.54	10.07
Movement LOS	A	A	A	A	В	В
95th-Percentile Queue Length [veh/ln]	0.10	0.10	0.00	0.00	0.18	0.18
95th-Percentile Queue Length [ft/In]	2.56	2.56	0.00	0.00	4.62	4.62
d_A, Approach Delay [s/veh]	0.	90	0.00		11	39
Approach LOS	A A B			3		
d_I, Intersection Delay [s/veh]	1.38					
Intersection LOS				В		

Duckhorn Vineyards TIS

Saturday PM Baseline + Project

Duckhorn Vineyards TIS Saturday PM Baseline + Project

Generated with	PTV	VISTRO
Version 7.00-06		

		Intersection	Level Of Servic	e Report				
Control Type: Two-way stop Analysis Method: HCM 6th Edition Analysis Period: 15 minutes		intersect	1011 1. OK 20/20	Delay Leve Volume t	γ (sec / veh): I Of Service: to Capacity (v/c):	38 1	i6.4 F 422	
Intersection Setup								
Name	e	SR	29	SR	29	Lod	i Ln	
Approa	ch	North	bound	South	bound	West	ound	
Lane Config	uration	ł	•	7	1	٦	-	
Turning Mo	vement	Thru	Right	Left	Thru	Left	Right	
Lane Wid	th [ft]	12.00	12.00	12.00	12.00	12.00	12.00	
No. of Lanes	in Pocket	0	0	1	0	0	0	
Pocket Ler	gth [ft]	100.00	100.00	90.00	100.00	100.00	100.00	
Speed [r	nph]	50	.00	50	.00	40	.00	
Grade	%]	0.	00	0.00		0.00		
Crossw	alk	N	lo	No		N	No	
Volumes	1							
Name		SR	29	SR 29		Lod	Lodi Ln	
Base Volume Ir	iput [veh/h]	667	40	22	622	85	37	
Base Volume Adju	stment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	
Heavy Vehicles P	ercentage [%]	4.00	4.00	4.00	4.00	4.00	4.00	
Growth F	actor	1.4600	1.1050	1.1050	1.4600	1.1050	1.1050	
In-Process Volu	ime [veh/h]	0	0	0	0	0	0	
Site-Generated	Trips [veh/h]	0	3	3	0	0	2	
Diverted Trip	s [veh/h]	0	0	0	0	0	0	
Pass-by Trip	s [veh/h]	0	0	0	0	0	0	
Existing Site Adjustme	nt Volume [veh/h]	0	0	0	0	0	0	
Other Volum	e [veh/h]	0	0	0	0	0	0	
Total Hourly Vol	ume [veh/h]	974	47	27	908	94	43	
Peak Hour	Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	
Other Adjustm	ent Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	
Total 15-Minute V	olume [veh/h]	244	12	7	227	24	11	
Total Analysis Vo	lume [veh/h]	974	47	27	908	94	43	
Redestrian Velu	r 183			+	1		<u> </u>	

Version 7.00-06

Intersection Settings

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.00	0.04	0.01	1.42	0.15
d_M, Delay for Movement [s/veh]	0.00	0.00	10.58	0.00	386.43	344.24
Movement LOS	A	A	В	A	F	F
95th-Percentile Queue Length [veh/In]	0.00	0.00	0.13	0.00	10.76	10.76
95th-Percentile Queue Length [ft/ln]	0.00	0.00	3.13	0.00	268.94	268.94
d_A, Approach Delay [s/veh]	0.00		0.	31	373	8.19
Approach LOS		4	A		F	
d_I, Intersection Delay [s/veh]	24.56					
Intersection LOS	F					

Duckhorn Vineyards TIS

Friday PM Future + Project	M Future + Projec	Proj	e -	Futu	РM	Friday	
----------------------------	-------------------	------	-----	------	----	--------	--

W-Trans 2

Duckhorn Vineyards TIS Friday PM Future + Project

Generated with	PTV	VISTRO
Version 7.00-06		

		Intersection	Level Of Servic	e Report			
Control Type: Analysis Method: Analysis Period:	Two-way stop HCM 6th Edition 15 minutes	intersection		Delay Level Volume te	v (sec / veh): Of Service: Capacity (v/c):	1: 0.	9.3 C 132
Intersection Setup							
Name	e	Silvera	do Trail	Silvera	do Trail	Lod	i Ln
Approa	ich	North	bound	South	bound	Easth	ound
Lane Config	juration	-		ŀ	•	٦	-
Turning Mo	vement	Left	Thru	Thru	Right	Left	Right
Lane Wid	th [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes	in Pocket	0	0	0	0	0	0
Pocket Ler	igth [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [r	nph]	50.	.00	50	.00	40	.00
Grade	[%]	0.0	00	0.00		0.00	
Crossw	alk	N	0	No		No	
Volumes	·						
Name	e	Silvera	do Trail	Silvera	do Trail	Lodi Ln	
Base Volume Ir	nput [veh/h]	63	299	265	50	32	46
Base Volume Adju	stment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Pe	ercentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth F	actor	1.1050	1.3700	1.3700	1.1050	1.1050	1.1050
In-Process Volu	ime [veh/h]	0	0	0	0	0	0
Site-Generated	Trips [veh/h]	3	0	0	1	0	5
Diverted Trip	s [veh/h]	0	0	0	0	0	0
Pass-by Trip	s [veh/h]	0	0	0	0	0	0
Existing Site Adjustme	nt Volume [veh/h]	0	0	0	0	0	0
Other Volum	e [veh/h]	0	0	0	0	0	0
Total Hourly Vol	ume [veh/h]	73	410	363	56	35	56
Peak Hour	Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustm	ent Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute V	olume [veh/h]	18	103	91	14	9	14
Total Analysis Vo	lume [veh/h]	73	410	363	56	35	56
Pedestrian Volu	ime [ped/h]	()	()	()

Version 7.00-06

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			Yes
Storage Area [veh]	0	0	1
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.06	0.00	0.00	0.00	0.13	0.09
d_M, Delay for Movement [s/veh]	8.37	0.00	0.00	0.00	19.33	11.26
Movement LOS	A	A	A	A	С	В
95th-Percentile Queue Length [veh/In]	0.20	0.20	0.00	0.00	0.45	0.45
95th-Percentile Queue Length [ft/In]	5.12	5.12	0.00	0.00	11.31	11.31
d_A, Approach Delay [s/veh]	1.27		0	.00	14	.37
Approach LOS		A	A		В	
d_I, Intersection Delay [s/veh]	1.93					
Intersection LOS	C					

Duckhorn Vineyards TIS

W-Trans 4

Duckhorn Vineyards TIS Friday PM Future + Project

Generated with	PTV	VISTRO
Version 7.00-06		

		Intersection	Level Of Servic	e Report			
Control Type: Two-way stop Analysis Method: HCM 6th Edition Analysis Period: 15 minutes				Delay Leve Volume t	γ (sec / veh): I Of Service: to Capacity (v/c):	13 0.1	88.4 F 710
Intersection Setup							
Name	e	SR	29	SR	29	Lod	i Ln
Approa	ch	North	bound	South	bound	Westh	oound
Lane Config	juration	ŀ	•	٦	1	٦	→
Turning Mo	vement	Thru	Right	Left	Thru	Left	Right
Lane Wid	th [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes	in Pocket	0	0	1	0	0	0
Pocket Ler	gth [ft]	100.00	100.00	90.00	100.00	100.00	100.00
Speed [r	nph]	50.	.00	50	.00	40	.00
Grade	%]	0.0	00	0.00		0.00	
Crossw	alk	N	lo	No		No	
Volumes	ľ				t		
Name		SR	29	SR 29		Lodi Ln	
Base Volume Ir	iput [veh/h]	686	22	27	649	39	13
Base Volume Adju	stment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles P	ercentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth F	actor	1.4600	1.1050	1.1050	1.4600	1.1050	1.1050
In-Process Volu	ime [veh/h]	0	0	0	0	0	0
Site-Generated	Trips [veh/h]	0	1	1	0	0	2
Diverted Trip	s [veh/h]	0	0	0	0	0	0
Pass-by Trip	s [veh/h]	0	0	0	0	0	0
Existing Site Adjustme	nt Volume [veh/h]	0	0	0	0	0	0
Other Volum	e [veh/h]	0	0	0	0	0	0
Total Hourly Vol	ume [veh/h]	1002	25	31	948	43	16
Peak Hour	Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustm	ent Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute V	olume [veh/h]	251	6	8	237	11	4
Total Analysis Vo	lume [veh/h]	1002	25	31	948	43	16
Pedestrian Volu	me [ped/h]	()	1	0	()

Version 7.00-06

Intersection Settings

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.00	0.05	0.01	0.71	0.06
d_M, Delay for Movement [s/veh]	0.00	0.00	10.58	0.00	138.36	91.36
Movement LOS	A	A	В	A	F	F
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.14	0.00	3.52	3.52
95th-Percentile Queue Length [ft/ln]	0.00	0.00	3.60	0.00	88.02	88.02
d_A, Approach Delay [s/veh]	0.00		0.34		125.61	
Approach LOS	A		A		F	
d_I, Intersection Delay [s/veh]	3.75					
Intersection LOS			F	=		

Duckhorn Vineyards TIS

Saturday PM Future + Project

W-Trans 2

Duckhorn Vineyards TIS Saturday PM Future + Project W-Trans

Generated with	PTV	VISTRO
Version 7.00-06		

		Intersection	Level Of Servic 2: Silverado Tra	e Report il/Lodi Ln				
Control Type: Analysis Method: Analysis Period:	Two-way stop HCM 6th Edition 15 minutes			Delay (sec / veh): Level Of Service: Volume to Capacity (v/c):		16.4 C 0.053		
Intersection Setup								
Name	e	Silvera	do Trail	Silvera	do Trail	Lod	i Ln	
Approa	ich	North	ound	South	bound	Eastb	ound	
Lane Config	juration	+		ŀ	•	٦	→	
Turning Mo	vement	Left	Thru	Thru	Right	Left	Right	
Lane Wid	th [ft]	12.00	12.00	12.00	12.00	12.00	12.00	
No. of Lanes	in Pocket	0	0	0	0	0	0	
Pocket Ler	igth [ft]	100.00	100.00	100.00	100.00	100.00	100.00	
Speed [r	nph]	50.	00	50	00	40	00	
Grade	[%]	0.0	00	0.00		0.00		
Crossw	alk	N	0	No		No		
Volumes	1				I			
Name	e	Silvera	do Trail	Silvera	do Trail	Lodi Ln		
Base Volume Ir	nput [veh/h]	30	296	253	31	15	31	
Base Volume Adju	stment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	
Heavy Vehicles P	ercentage [%]	3.00	3.00	3.00	3.00	3.00	3.00	
Growth F	actor	1.1050	1.3700	1.3700	1.1050	1.1050	1.1050	
In-Process Volu	ime [veh/h]	0	0	0	0	0	0	
Site-Generated	Trips [veh/h]	2	0	0	1	0	4	
Diverted Trip	s [veh/h]	0	0	0	0	0	0	
Pass-by Trip	s [veh/h]	0	0	0	0	0	0	
Existing Site Adjustme	nt Volume [veh/h]	0	0	0	0	0	0	
Other Volum	e [veh/h]	0	0	0	0	0	0	
Total Hourly Vol	ume [veh/h]	35	406	347	35	17	38	
Peak Hour	Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	
Other Adjustm	ent Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	
Total 15-Minute V	olume [veh/h]	9	102	87	9	4	10	
Total Analysis Vo	lume [veh/h]	35	406	347	35	17	38	
Pedestrian Volu	ime [ped/h]	C)	()	()	

Version 7.00-06

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			Yes
Storage Area [veh]	0	0	1
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.03	0.00	0.00	0.00	0.05	0.06
d_M, Delay for Movement [s/veh]	8.17	0.00	0.00	0.00	16.43	10.53
Movement LOS	A	A	A	A	С	В
95th-Percentile Queue Length [veh/ln]	0.09	0.09	0.00	0.00	0.18	0.18
95th-Percentile Queue Length [ft/ln]	2.31	2.31	0.00	0.00	4.44	4.44
d_A, Approach Delay [s/veh]	0.65		0.00		12.35	
Approach LOS	A		A		В	
d_l, Intersection Delay [s/veh]	1.10					
Intersection LOS		С				

Duckhorn Vineyards TIS

W-Trans 4

Duckhorn Vineyards TIS Saturday PM Future + Project

Generated with	PTV	VISTRO
Version 7.00-06		

		Intersection Intersect	Level Of Servic ion 1: SR 29/Lo	e Report di Ln			
Control Type: Analysis Method: Analysis Period:	Two-way stop HCM 6th Edition 15 minutes			Delay Leve Volume to	/ (sec / veh): I Of Service: o Capacity (v/c):	36 1.	i3.8 F 422
Intersection Setup							
Name	<u> </u>	SP	20	SR	20	Lod	iln
Appros		North	pound	South	bound	Weet	ound
		1 Nordin	Journa	Coun	t	West	Jound
Lane Config	juration	- F	•	1		П	F
Turning Mo	vement	Thru	Right	Left	Thru	Left	Right
Lane Wid	th [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes	in Pocket	0	0	1	0	0	1
Pocket Ler	igth [ft]	100.00	100.00	90.00	100.00	100.00	100.00
Speed [r	nph]	50.	.00	50	.00	40	00
Grade	[%]	0.0	00	0.00		0.00	
Crossw	alk	N	0	No		No	
Volumes					·		
Name	e	SR	29	SR	29	Lod	i Ln
Base Volume Ir	nput [veh/h]	667	40	22	622	85	37
Base Volume Adju	stment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles P	ercentage [%]	4.00	4.00	4.00	4.00	4.00	4.00
Growth F	actor	1.4600	1.1050	1.1050	1.4600	1.1050	1.1050
In-Process Volu	ime [veh/h]	0	0	0	0	0	0
Site-Generated	Trips [veh/h]	0	3	3	0	0	2
Diverted Trip	s [veh/h]	0	0	0	0	0	0
Pass-by Trip	s [veh/h]	0	0	0	0	0	0
Existing Site Adjustme	nt Volume [veh/h]	0	0	0	0	0	0
Other Volum	e [veh/h]	0	0	0	0	0	0
Total Hourly Vol	ume [veh/h]	974	47	27	908	94	43
Peak Hour	Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustm	ent Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute V	olume [veh/h]	244	12	7	227	24	11
Total Analysis Vo	lume [veh/h]	974	47	27	908	94	43
Pedestrian Volu	ime [ped/h]	()	(0	()

Version 7.00-06

Intersection Settings

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

Movement, Approach, & Intersection Results

V/C Movement V/C Patie	0.01	0.00	0.04	0.01	1.42	0.15
V/G, WOVEINEIN V/G IValio	0.01	0.00	0.04	0.01	1.42	0.15
d_M, Delay for Movement [s/veh]	0.00	0.00	10.58	0.00	363.82	19.36
Movement LOS	A	A	В	A	F	С
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.13	0.00	7.93	0.51
95th-Percentile Queue Length [ft/ln]	0.00	0.00	3.13	0.00	198.28	12.67
d_A, Approach Delay [s/veh]	0.00 0.31 25		255	.71		
Approach LOS		A	A		F	
d_l, Intersection Delay [s/veh]	16.87					
Intersection LOS		F				

Duckhorn Vineyards TIS

Friday PM Future + Project (Mit)

Duckhorn Vineyards TIS Friday PM Future + Project (Mit)

Generated with	PTV	VISTRO
Version 7.00-06		

		Intersection	Level Of Servic	e Report di I n				
Control Type: Analysis Method: Analysis Period:	Two-way stop HCM 6th Edition 15 minutes			Delay Leve Volume t	/ (sec / veh): l Of Service: o Capacity (v/c):	15 0.	51.6 F 710	
Intersection Setup								
Name		SR	29	SR	29	Lod	i Ln	
Approa	ch	North	bound	South	bound	West	oound	
Lane Config	uration	ŀ	•	٦	1	٦	r	
Turning Mov	/ement	Thru	Right	Left	Thru	Left	Right	
Lane Wid	th [ft]	12.00	12.00	12.00	12.00	12.00	12.00	
No. of Lanes i	n Pocket	0	0	1	0	0	1	
Pocket Len	gth [ft]	100.00	100.00	90.00	100.00	100.00	100.00	
Speed [n	nph]	50	.00	50	.00	40	.00	
Grade [%]	0.	00	0.	00	0.00		
Crossw	alk	N	lo	No		No		
Volumes					·			
Name	;	SR	29	SR	SR 29		Lodi Ln	
Base Volume In	put [veh/h]	686	22	27	649	39	13	
Base Volume Adju	stment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	
Heavy Vehicles Pe	ercentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	
Growth Fa	actor	1.4600	1.1050	1.1050	1.4600	1.1050	1.1050	
In-Process Volu	me [veh/h]	0	0	0	0	0	0	
Site-Generated 1	Trips [veh/h]	0	1	1	0	0	2	
Diverted Trips	s [veh/h]	0	0	0	0	0	0	
Pass-by Trips	s [veh/h]	0	0	0	0	0	0	
Existing Site Adjustme	nt Volume [veh/h]	0	0	0	0	0	0	
Other Volume	e [veh/h]	0	0	0	0	0	0	
Total Hourly Volu	ume [veh/h]	1002	25	31	948	43	16	
Peak Hour	Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	
Other Adjustme	ent Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	
Total 15-Minute Vo	olume [veh/h]	251	6	8	237	11	4	
Total Analysis Vo	lume [veh/h]	1002	25	31	948	43	16	
Pedestrian Volu	me [ped/h]	()	() D	()	

Version 7.00-06

Intersection Settings

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.00	0.05	0.01	0.71	0.06
d_M, Delay for Movement [s/veh]	0.00	0.00	10.58	0.00	151.64	18.17
Movement LOS	A	A	В	A	F	С
95th-Percentile Queue Length [veh/In]	0.00	0.00	0.14	0.00	3.06	0.17
95th-Percentile Queue Length [ft/ln]	0.00	0.00	3.60	0.00	76.62	4.37
d_A, Approach Delay [s/veh]	0.00		0.34		115.45	
Approach LOS	A		A		F	
d_I, Intersection Delay [s/veh]	3.46					
Intersection LOS	F					

Duckhorn Vineyards TIS

Saturday PM Future + Project (Mit)

W-Trans 2

Duckhorn Vineyards TIS Saturday PM Future + Project (Mit) W-Trans

Appendix D

Roadway Segment Level of Service Calculations





This page intentionally left blank

HCS7 Two-Lane Highway Report							
Pro	ject Information						
Ana	lyst KT		Date		12/4/20		
Age	псу	W-Trans	Analysis Year		2020		
Juris	diction	County of Napa	Time Period Analy	/zed	Friday PM Existing		
Project Description		SR 29 – North of Lodi La (NB) – Friday PM	ane Unit		United States Customary		
	Segment 1						
Vel	nicle Inputs						
Segi	nent Type	Passing Constrained	Length, ft		5280		
Lane	Width, ft	12	Shoulder Width, f	t	6		
Spee	ed Limit, mi/h	50	Access Point Den	sity, pts/mi	4.0		
Demand and Capacity							
Dire	ctional Demand Flow Rate, veh/h	733	Opposing Deman	d Flow Rate, veh/h	-		
Peak Hour Factor 0.96		0.96	Total Trucks, %		4.00		
Segment Capacity, veh/h 1700		1700	Demand/Capacity	(D/C)	0.43		
Int	ermediate Results						
Segment Vertical Class 1 Free-Flow Speed, mi/h 55.9					55.9		
Speed Slope Coefficient 3.58815		Speed Power Coe	fficient	0.41674			
PF Slope Coefficient -1.32983		-1.32983	PF Power Coeffici	ent	0.75000		
In Passing Lane Effective Length? No		No	Total Segment De	nsity, veh/mi/ln	9.0		
%Improved % Followers		0.0	% Improved Avg	Speed	0.0		
Subsegment Data							
#	Segment Type	Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h		
1	Tangent	5280	-	-	52.9		
Vel	nicle Results						
Average Speed, mi/h 52.9		Percent Followers	, %	65.1			
Segment Travel Time, minutes 1.13		Followers Density	, followers/mi/ln	9.0			
Vehi	Vehicle LOS C						
Copyr	copyright © 2020 University of Florida. All Rights Reserved. HCS1004 Two-Lane Version 7.8 Generated: 12/04/2020 12:45:27						

1_SR 29 – North of Lodi Lane (Northbound) – Weekday PM.xuf

		HCS7 Two-La	ne	Highway R	eport			
Pro	ject Information							
Anal	/st	КТ		Date		12/4/2020		
Ager	ю	W-Trans		Analysis Year		2020		
uris	diction	County of Napa		Time Period Analyzed		Friday PM Existing		
Proje	Project Description SR 29 – North of (SB) – Friday PM		ane.	Unit		United States Customary		
		Se	egm	nent 1				
Veh	icle Inputs							
Segn	nent Type	Passing Constrained		Length, ft		5280		
ane	ine Width, ft 12			Shoulder Width, f	it	6		
Speed Limit, mi/h 50			Access Point Den	sity, pts/mi	10.0			
Der	nand and Capacity							
Directional Demand Flow Rate, veh/h 671			Opposing Demar	d Flow Rate, veh/h	-			
Peak Hour Factor 0.96		0.96	96			4.00		
Segment Capacity, veh/h 1700			Demand/Capacity (D/C)		0.39			
nte	ermediate Results							
Segment Vertical Class 1 Fr			Free-Flow Speed, mi/h		54.4			
Speed Slope Coefficient		3.50685		Speed Power Coefficient		0.41674		
PF Slope Coefficient -1.34		-1.34047		PF Power Coefficient		0.74585		
n Passing Lane Effective Length?		No		Total Segment Density, veh/mi/ln		8.2		
%Improved % Followers 0.		0.0		% Improved Avg Speed		0.0		
Sub	segment Data							
ŧ	Segment Type	Length, ft	Rad	ius, ft	Superelevation, %	Average Speed, mi/h		
1	Tangent	5280	-		-	51.6		
Veh	icle Results	·				÷		
Average Speed, mi/h 51.6			Percent Followers, %		63.0			
Segment Travel Time, minutes 1.1		1.16		Followers Density, followers/mi/ln		8.2		
/ehicle LOS C								
opyri	ght © 2020 University of Florida. All Rights F	Reserved. HCSTN0 T 1_SR 29 – North of Lodi	ľwo-La Lane	ane Version 7.8 (Southbound) – Friday	PM.xuf	Generated: 12/04/2020 12:52:17		
	HCS7 Two-Lane Highway Report							
-------	--	--	-----------------	----------------------	-------------------------	--	--	--
Pro	ject Information							
Ana	yst	КТ	Date		12/4/2020			
Age	ncy	W-Trans	Analysis Year		2020			
Juris	diction	County of Napa	Time Period An	alyzed	Friday PM Existing			
Proj	ect Description	SR 29 – South of Lodi La (NB) – Friday PM	ane Unit		United States Customary			
	Segment 1							
Vel	nicle Inputs							
Segi	nent Type	Passing Constrained	Length, ft		5280			
Lane	Width, ft	12	Shoulder Width	, ft	6			
Spee	ed Limit, mi/h	50	Access Point De	nsity, pts/mi	4.0			
De	mand and Capacity							
Dire	ctional Demand Flow Rate, veh/h	736	Opposing Dem	and Flow Rate, veh/h	-			
Peak	Hour Factor	0.96	Total Trucks, %		4.00			
Segi	ment Capacity, veh/h	1700	Demand/Capac	ity (D/C)	0.43			
Int	ermediate Results							
Segr	nent Vertical Class	1	Free-Flow Spee	d, mi/h	55.9			
Spee	ed Slope Coefficient	3.58815	Speed Power Co	pefficient	0.41674			
PF S	lope Coefficient	-1.32983	PF Power Coeffi	cient	0.75000			
In Pa	assing Lane Effective Length?	No	Total Segment I	Density, veh/mi/ln	9.1			
%lm	proved % Followers	0.0	% Improved Av	g Speed	0.0			
Sul	osegment Data							
#	Segment Type	Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h			
1	Tangent	5280	-	-	52.9			
Vel	nicle Results							
Aver	age Speed, mi/h	52.9	Percent Followe	rs, %	65.3			
Segr	ment Travel Time, minutes	1.13	Followers Densi	ty, followers/mi/ln	9.1			
Vehi	cle LOS	с						
Copyr	opyright © 2020 University of Florida. All Rights Reserved. HCS 1000 Two-Lane Version 7.8 Generated: 12/04/2020 12:58:49							

2_SR 29 – South of Lodi Lane (Northbound) – Weekday PM.xuf

	HCS7 Two-Lane Highway Report								
Pro	ject Information								
Anal	lyst	КТ		Date		12/4/2020			
Age	ncy	W-Trans		Analysis Year		2020			
Juris	diction	County of Napa		Time Period Analy	zed	Friday PM Existing			
Proje	ect Description	SR 29 – South of Lodi (SB) – Friday PM	Lane	Unit		United States Customary			
		s	egn	nent 1					
Veł	nicle Inputs								
Segr	ment Type	Passing Constrained		Length, ft		5280			
Lane	e Width, ft	12		Shoulder Width, f	t	6			
Spee	ed Limit, mi/h	50		Access Point Dens	iity, pts/mi	10.0			
De	mand and Capacity								
Dire	ctional Demand Flow Rate, veh/h	736		Opposing Deman	d Flow Rate, veh/h	-			
Peak	Hour Factor	0.96		Total Trucks, %		4.00			
Segr	ment Capacity, veh/h	1700		Demand/Capacity	r (D/C)	0.43			
Int	ermediate Results								
Segr	ment Vertical Class	1		Free-Flow Speed, mi/h		54.4			
Spee	ed Slope Coefficient	3.50685		Speed Power Coefficient		0.41674			
PF S	lope Coefficient	-1.34047		PF Power Coefficient		0.74585			
In Pa	assing Lane Effective Length?	No		Total Segment De	nsity, veh/mi/ln	9.4			
%lm	proved % Followers	0.0		% Improved Avg	Speed	0.0			
Sul	bsegment Data								
#	Segment Type	Length, ft	Rad	lius, ft	Superelevation, %	Average Speed, mi/h			
1	Tangent	5280	-		-	51.5			
Veł	nicle Results								
Aver	rage Speed, mi/h	51.5		Percent Followers	, %	65.6			
Segr	ment Travel Time, minutes	1.17		Followers Density	followers/mi/ln	9.4			
Vehi	cle LOS	С							
Copyri	ight © 2020 University of Florida. All Right	s Reserved. HCS 100	Two-L	ane Version 7.8		Generated: 12/04/2020 13:02:47			

2_SR 29 - South of Lodi Lane (Southbound) - Weekday PM.xuf

		HCS7 Two-La	ane	Highway Re	eport		
Pro	ject Information						
Anal	yst	KT		Date		12/4/2020	
Age	псу	W-Trans		Analysis Year		2020	
Juris	diction	County of Napa		Time Period Analy	zed	Friday PM Existing	
Proje	ect Description	Lodi Ln – West of Proje Driveway (EB) – Friday	ect PM	Unit		United States Customary	
		S	egm	nent 1			
Veł	nicle Inputs						
Segr	nent Type	Passing Constrained		Length, ft		5280	
Lane	Width, ft	14		Shoulder Width, f	t	0	
Spee	ed Limit, mi/h	45		Access Point Density, pts/mi		11.0	
De	mand and Capacity						
Dire	ctional Demand Flow Rate, veh/h	65		Opposing Demand Flow Rate, veh/h		-	
Peak	Hour Factor	0.96		Total Trucks, %		4.00	
Segr	nent Capacity, veh/h	1700		Demand/Capacity	r (D/C)	0.04	
Int	ermediate Results						
Segr	nent Vertical Class	1		Free-Flow Speed, mi/h		45.4	
Spee	ed Slope Coefficient	3.02176		Speed Power Coefficient		0.41674	
PF S	lope Coefficient	-1.38649		PF Power Coefficient		0.71813	
In Pa	ssing Lane Effective Length?	No		Total Segment De	nsity, veh/mi/ln	0.3	
%lm	proved % Followers	0.0		% Improved Avg Speed		0.0	
Sul	osegment Data						
#	Segment Type	Length, ft	Radi	ius, ft	Superelevation, %	Average Speed, mi/h	
1	Tangent	5280	-		-	45.4	
Veł	nicle Results						
Aver	age Speed, mi/h	45.4		Percent Followers,	, %	17.6	
Segr	nent Travel Time, minutes	1.32		Followers Density,	, followers/mi/ln	0.3	
Vehi	cle LOS	A					
Copyri	opyright © 2020 University of Florida. All Rights Reserved. HCS 1000 Two-Lane Version 7.8 Generated: 12/04/2020 13:08:03						

3_Lodi Ln - West of Project Driveway (Eastbound) - Weekday PM.xuf

HCS7 Two-Lane Highway Report Project Information КΤ 12/4/2020 Analyst Date W-Trans 2020 Agency Analysis Year Jurisdiction County of Napa Time Period Analyzed Friday PM Existing Lodi Ln – West of Project Driveway (WB) – Friday PM Project Description Unit United States Customary Segment 1 Vehicle Inputs Segment Type Passing Constrained Length, ft 5280 Lane Width, ft 14 Shoulder Width, ft 0 Speed Limit, mi/h 45 Access Point Density, pts/mi 10.0 Demand and Capacity 127 Opposing Demand Flow Rate, veh/h Directional Demand Flow Rate, veh/h 0.96 Peak Hour Factor Total Trucks, % 4.00 1700 0.07 Segment Capacity, veh/h Demand/Capacity (D/C) Intermediate Results Segment Vertical Class 1 Free-Flow Speed, mi/h 45.7 Speed Slope Coefficient 3.03531 Speed Power Coefficient 0.41674 PF Slope Coefficient -1.38568 PF Power Coefficient 0.71899 In Passing Lane Effective Length? No Total Segment Density, veh/mi/ln 0.8 0.0 %Improved % Followers 0.0 % Improved Avg Speed Subsegment Data Segment Type Length, ft Radius, ft Superelevation, % Average Speed, mi/h 1 Tangent 5280 45.0 Vehicle Results Average Speed, mi/h 45.0 Percent Followers, % 27.0 1.33 0.8 Segment Travel Time, minutes Followers Density, followers/mi/In Vehicle LOS А Copyright © 2020 University of Florida. All Rights Reserved. HCSTNI Two-Lane Version 7.8

3_Lodi Ln - West of Project Driveway (WB) - Friday PM - E.xuf

Generated: 12/06/2020 19:13:09

Generated: 12/04/2020 13:08:03

	HCS7 Two-Lane Highway Report							
Pro	ject Information							
Ana	lyst	КТ		Date		12/4/2020		
Age	ncy	W-Trans		Analysis Year		2020		
Juris	diction	County of Napa		Time Period Analy	zed	Friday PM Existing		
Proj	ect Description	Lodi Ln – East of Project Driveway (EB) – Friday PM		Unit		United States Customary		
	Segment 1							
Vel	hicle Inputs							
Seg	ment Type	Passing Constrained		Length, ft		5280		
Lane	e Width, ft	14		Shoulder Width, f	t	0		
Spe	ed Limit, mi/h	45	45 Access Point Densit		sity, pts/mi	11.0		
De	mand and Capacity							
Directional Demand Flow Rate, veh/h		81		Opposing Deman	d Flow Rate, veh/h	-		
Peal	Hour Factor	0.96		Total Trucks, %		2.00		
Seg	ment Capacity, veh/h	1700		Demand/Capacity	r (D/C)	0.05		
Int	ermediate Results							
Seg	ment Vertical Class	1		Free-Flow Speed, mi/h		45.5		
Spe	ed Slope Coefficient	3.02537	3.02537 Speed Power Co		fficient	0.41674		
PF S	lope Coefficient	-1.38653		PF Power Coefficie	ent	0.71808		
In Pa	assing Lane Effective Length?	No		Total Segment De	nsity, veh/mi/ln	0.4		
%lm	proved % Followers	0.0		% Improved Avg	Speed	0.0		
Su	bsegment Data							
#	Segment Type	Length, ft	Rac	dius, ft	Superelevation, %	Average Speed, mi/h		
1	Tangent	5280	-		-	45.5		
Vel	hicle Results							
Ave	rage Speed, mi/h	45.5		Percent Followers	, %	20.4		
Seg	ment Travel Time, minutes	1.32		Followers Density	, followers/mi/ln	0.4		
Vehi	icle LOS	A						
opyright © 2020 University of Florida. All Rights Reserved. HCS1000 Two-Lane Version 7.8 Generated: 12/06/2020 19:16:0								

4_Lodi Ln – East of Project Driveway (EB) – Friday PM – E.xuf

	HCS7 Two-Lane Highway Report							
Pro	ject Information							
Anal	yst	КТ		Date		12/4/20		
Ager	псу	W-Trans		Analysis Year		2020		
Juris	diction	County of Napa		Time Period Analy	zed	Friday PM Existing		
Proje	ect Description	Lodi Ln – East of Project Driveway (WB) – Friday PM		Unit		United States Customary		
	Segment 1							
Veh	icle Inputs							
Segn	nent Type	Passing Constrained		Length, ft		5280		
Lane	Width, ft	14		Shoulder Width, ft	t	0		
Spee	d Limit, mi/h	45		Access Point Dens	ity, pts/mi	0.0		
Der	Demand and Capacity							
Direc	tional Demand Flow Rate, veh/h	118		Opposing Deman	d Flow Rate, veh/h	-		
Peak	Hour Factor	0.96		Total Trucks, %		2.00		
Segn	nent Capacity, veh/h	1700		Demand/Capacity	(D/C)	0.07		
Inte	ermediate Results							
Segn	nent Vertical Class	1		Free-Flow Speed, mi/h		48.2		
Spee	d Slope Coefficient	3.17442		Speed Power Coefficient		0.41674		
PF SI	ope Coefficient	-1.37589		PF Power Coefficient		0.72723		
In Pa	ssing Lane Effective Length?	No		Total Segment De	nsity, veh/mi/ln	0.6		
%lm	proved % Followers	0.0		% Improved Avg S	speed	0.0		
Sub	osegment Data							
#	Segment Type	Length, ft	Radi	ius, ft	Superelevation, %	Average Speed, mi/h		
1	Tangent	5280	-		-	47.6		
Veh	icle Results							
Aver	age Speed, mi/h	47.6		Percent Followers,	%	25.2		
Segn	nent Travel Time, minutes	1.26		Followers Density,	followers/mi/In	0.6		
Vehicle LOS A								
opyright © 2020 University of Florida. All Rights Reserved. HCS100 Two-Lane Version 7.8						Generated: 12/06/2020 19:34:19		

4_Lodi Ln – East of Project Driveway (WB) – Friday PM – E.xuf

		HCS7 Two-La	ane	Highway Re	eport		
Pro	ject Information						
Anal	yst	КТ		Date		12/4/20	
Age	ncy	W-Trans		Analysis Year		2020	
Juris	diction	County of Napa		Time Period Analy	zed	Friday PM Existing	
Proje	ect Description	Silverado Trail – North of Lodi Lane (NB) – Friday PM		Unit		United States Customary	
		S	egn	nent 1			
Veł	nicle Inputs						
Segr	nent Type	Passing Constrained		Length, ft		5280	
Lane	Width, ft	12		Shoulder Width, f	t	6	
Spee	ed Limit, mi/h	45		Access Point Density, pts/mi		5.0	
De	mand and Capacity						
Directional Demand Flow Rate, veh/h		345		Opposing Deman	d Flow Rate, veh/h	-	
Peak	Hour Factor	0.96		Total Trucks, %		2.00	
Segr	ment Capacity, veh/h	1700		Demand/Capacity	r (D/C)	0.20	
Int	ermediate Results						
Segr	nent Vertical Class	1		Free-Flow Speed, mi/h		50.0	
Spee	ed Slope Coefficient	3.26927		Speed Power Coefficient		0.41674	
PF S	lope Coefficient	-1.36736		PF Power Coefficient		0.73272	
In Pa	assing Lane Effective Length?	No		Total Segment De	nsity, veh/mi/ln	3.3	
%lm	proved % Followers	0.0		% Improved Avg Speed		0.0	
Sul	osegment Data						
#	Segment Type	Length, ft	Rad	lius, ft	Superelevation, %	Average Speed, mi/h	
1	Tangent	5280	-		-	48.2	
Veł	nicle Results						
Aver	age Speed, mi/h	48.2		Percent Followers,	, %	46.6	
Segr	ment Travel Time, minutes	1.25		Followers Density,	, followers/mi/ln	3.3	
Vehi	cle LOS	В					
Copyri	opyright © 2020 University of Florida. All Rights Reserved. HCS 1000 Two-Lane Version 7.8 Generated: 12/04/2020 13:31:23						

5_Silverado Trail - North of Lodi Lane (Northbound) - Weekday PM.xuf

Project Information КΤ 12/4/20 Analyst Date W-Trans 2020 Agency Analysis Year Jurisdiction County of Napa Time Period Analyzed Friday PM Existing Silverado Trail – North of Lodi Lane (SB) – Friday PM Project Description Unit United States Customary Segment 1 Vehicle Inputs Segment Type Passing Constrained Length, ft 5280 Lane Width, ft 12 Shoulder Width, ft 6 Speed Limit, mi/h 45 Access Point Density, pts/mi 1.0 Demand and Capacity 328 Opposing Demand Flow Rate, veh/h Directional Demand Flow Rate, veh/h 0.96 Peak Hour Factor Total Trucks, % 2.00 1700 0.19 Segment Capacity, veh/h Demand/Capacity (D/C) Intermediate Results Segment Vertical Class 1 Free-Flow Speed, mi/h 51.0 3.32347 Speed Slope Coefficient Speed Power Coefficient 0.41674 PF Slope Coefficient -1.36191 PF Power Coefficient 0.73576 In Passing Lane Effective Length? No Total Segment Density, veh/mi/ln 3.0 0.0 %Improved % Followers 0.0 % Improved Avg Speed Subsegment Data Segment Type Length, ft Radius, ft Average Speed, mi/h Superelevation, % 1 Tangent 5280 49.2 Vehicle Results Average Speed, mi/h 49.2 Percent Followers, % 45.1 1.22 3.0 Segment Travel Time, minutes Followers Density, followers/mi/In

HCS7 Two-Lane Highway Report

Vehicle LOS В Copyright © 2020 University of Florida. All Rights Reserved. HCSTMI Two-Lane Version 7.8

5_Silverado Trail - North of Lodi Lane (Southbound) - Weekday PM.xuf

Generated: 12/04/2020 13:34:40

Generated: 12/04/2020 13:31:23

		HCS7 Two-La	ne Higł	nway R	eport		
Pro	ject Information						
Ana	yst	КТ	Date	Date		12/4/20	
Age	псу	W-Trans	Analys	is Year		2020	
Juris	diction	County of Napa	Time F	Period Analy	yzed	Friday PM Existing	
Proj	ect Description	Silverado Trail – South Lodi Lane (NB) – Friday	of Unit			United States Customary	
		Se	egment	1			
Vel	nicle Inputs						
Segi	nent Type	Passing Constrained	Lengt	n, ft		5280	
Lane	Width, ft	12	Should	der Width, f	ť	6	
Spee	ed Limit, mi/h	45	Acces	Access Point Density, pts/mi		5.0	
De	mand and Capacity						
Dire	ctional Demand Flow Rate, veh/h	377	Oppos	Opposing Demand Flow Rate, veh/h		-	
Peak	Hour Factor	0.96	Total 1	rucks, %		2.00	
Segi	nent Capacity, veh/h	1700	Dema	nd/Capacity	/ (D/C)	0.22	
Int	ermediate Results						
Segr	nent Vertical Class	1	Free-F	Free-Flow Speed, mi/h		50.0	
Spee	ed Slope Coefficient	3.26927	Speed	Speed Power Coefficient		0.41674	
PF S	lope Coefficient	-1.36736	PF Pov	PF Power Coefficient		0.73272	
In Pa	issing Lane Effective Length?	No	Total S	egment De	ensity, veh/mi/ln	3.8	
%lm	proved % Followers	0.0	% Imp	% Improved Avg Speed		0.0	
Sul	osegment Data						
#	Segment Type	Length, ft	Radius, ft		Superelevation, %	Average Speed, mi/h	
1	Tangent	5280	-		-	48.1	
Vel	nicle Results						
Aver	age Speed, mi/h	48.1	Percer	t Followers	, %	48.8	
Segr	nent Travel Time, minutes	1.25	Follow	ers Density	, followers/mi/ln	3.8	
Vehi	cle LOS	В					
Copyr	opyright © 2020 University of Florida. All Rights Reserved. HCS1000 Two-Lane Version 7.8 Generated: 12/04/2020 13:38:09						

Copyright © 2020 University of Florida. All Rights Reserved. HCS100 Two-Lane Version 7.8 6_Silverado Trail – South of Lodi Lane (Northbound) – Weekday PM.xuf

	HCS7 Two-Lane Highway Report							
Pro	ject Information							
Ana	yst	KT		Date		12/4/20		
Age	ncy	W-Trans		Analysis Year		2020		
Juris	diction	County of Napa		Time Period Analy	zed	Friday PM Existing		
Proj	ect Description	Silverado Trail – South Lodi Lane (SB) – Friday	of / PM	Unit		United States Customary		
	Segment 1							
Vel	nicle Inputs							
Segi	nent Type	Passing Constrained		Length, ft		5280		
Lane	e Width, ft	12		Shoulder Width, f	t	6		
Spee	ed Limit, mi/h	45		Access Point Dens	iity, pts/mi	1.0		
De	mand and Capacity							
Directional Demand Flow Rate, veh/h		324		Opposing Deman	d Flow Rate, veh/h	-		
Peak	Hour Factor	0.96		Total Trucks, %		2.00		
Seg	ment Capacity, veh/h	1700		Demand/Capacity	r (D/C)	0.19		
Int	ermediate Results							
Segi	ment Vertical Class	1		Free-Flow Speed, mi/h		51.0		
Spee	ed Slope Coefficient	3.32347		Speed Power Coefficient		0.41674		
PF S	lope Coefficient	-1.36191		PF Power Coefficie	ent	0.73576		
In Pa	assing Lane Effective Length?	No		Total Segment De	nsity, veh/mi/ln	2.9		
%lm	proved % Followers	0.0		% Improved Avg	Speed	0.0		
Sul	osegment Data							
#	Segment Type	Length, ft	Rad	lius, ft	Superelevation, %	Average Speed, mi/h		
1	Tangent	5280	-		-	49.2		
Vel	nicle Results							
Average Speed, mi/h 49.2 Percent Followers, % 44.8					44.8			
Seg	ment Travel Time, minutes	1.22		Followers Density,	followers/mi/ln	2.9		
Vehi	cle LOS	В						
Copyr	opyright © 2020 University of Florida. All Rights Reserved. HCS 1000 Two-Lane Version 7.8 Generated: 12/04/2020 13:40:10							

6_Silverado Trail - South of Lodi Lane (Southbound) - Weekday PM.xuf

		HCS7 Two-Lar	ne Highway R	eport				
Pro	ject Information							
Anal	yst	KT	Date		12/4/20			
Age	псу	W-Trans	Analysis Year		2020			
Juris	diction	County of Napa	Time Period Anal	yzed	Saturday PM Existing			
Proje	ect Description	SR 29 – North of Lodi La (NB) – Saturday PM	ine Unit		United States Customary			
	Segment 1							
Veł	nicle Inputs							
Segr	nent Type	Passing Constrained	Length, ft		5280			
Lane	Width, ft	12	Shoulder Width,	ft	6			
Spee	ed Limit, mi/h	50	Access Point Den	sity, pts/mi	4.0			
De	mand and Capacity							
Dire	ctional Demand Flow Rate, veh/h	728	Opposing Demar	nd Flow Rate, veh/h	-			
Peak	Hour Factor	0.96	Total Trucks, %		2.00			
Segr	nent Capacity, veh/h	1700	Demand/Capacit	y (D/C)	0.43			
Int	ermediate Results							
Segr	nent Vertical Class	1	Free-Flow Speed,	, mi/h	55.9			
Spee	ed Slope Coefficient	3.59176	Speed Power Coe	efficient	0.41674			
PF S	lope Coefficient	-1.32959	PF Power Coeffic	ient	0.74990			
In Pa	issing Lane Effective Length?	No	Total Segment De	ensity, veh/mi/ln	8.9			
%lm	proved % Followers	0.0	% Improved Avg	Speed	0.0			
Sul	osegment Data							
#	Segment Type	Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h			
1	Tangent	5280	-	-	53.0			
Veł	nicle Results							
Aver	age Speed, mi/h	53.0	Percent Followers	s, %	64.9			
Segr	nent Travel Time, minutes	1.13	Followers Density	, followers/mi/ln	8.9			
Vehi	cle LOS	С						
Copyri	opyright © 2020 University of Florida. All Rights Reserved. HCS1000 Two-Lane Version 7.8 Generated: 12/04/2020 12:49:57							

1_SR 29 – North of Lodi Lane (Northbound) – Saturday PM.xuf

	HCS7 Two-La	ane	Highway R	eport	
Project Information					
Analyst	КТ		Date		12/4/2020
Agency	W-Trans		Analysis Year		2020
Jurisdiction	County of Napa		Time Period Analy	/zed	Saturday PM Existing
Project Description	SR 29 – North of Lodi (SB) – Saturday PM	Lane	Unit		United States Customary
	S	egm	ent 1		
Vehicle Inputs					
Segment Type	Passing Constrained		Length, ft		5280
Lane Width, ft	12		Shoulder Width, f	t	6
Speed Limit, mi/h	50		Access Point Dens	sity, pts/mi	10.0
Demand and Capacity					
Directional Demand Flow Rate, veh/h	704		Opposing Deman	d Flow Rate, veh/h	-
Peak Hour Factor	0.96		Total Trucks, %		2.00
Segment Capacity, veh/h	1700		Demand/Capacity	(D/C)	0.41
Intermediate Results					
Segment Vertical Class	1		Free-Flow Speed, mi/h		54.4
Speed Slope Coefficient	3.51046		Speed Power Coefficient		0.41674
PF Slope Coefficient	-1.34026		PF Power Coefficient		0.74575
In Passing Lane Effective Length?	No		Total Segment Density, veh/mi/ln		8.8
%Improved % Followers	0.0		% Improved Avg	Speed	0.0
Subsegment Data					
# Segment Type	Length, ft	Radi	us, ft	Superelevation, %	Average Speed, mi/h
1 Tangent	5280	-		-	51.6
Vehicle Results				1	1
Average Speed, mi/h 51.6 Percent Followers, % 64.4				64.4	
Segment Travel Time, minutes	1.16		Followers Density	, followers/mi/ln	8.8
Vehicle LOS	с				
Copyright © 2020 University of Florida. All Rights	s Reserved. HCS1000 1_SR 29 – North of Lo	I Two-Lai .odi Lane	ne Version 7.8 e (SB) – Saturday PM –	- E.xuf	Generated: 12/06/2020 19:22:1

HCS7 Two-Lane Highway Report							
Pro	ject Information						
Anal	yst	КТ		Date		12/4/20	
Ager	ncy	W-Trans		Analysis Year		2020	
Juris	diction	County of Napa		Time Period Analy	/zed	Saturday PM Existing	
Proje	ect Description	SR 29 – South of Lod (NB) – Saturday PM	i Lane	Unit		United States Customary	
		9	Segn	nent 1			
Veł	icle Inputs						
Segr	nent Type	Passing Constrained		Length, ft		5280	
Lane	Width, ft	12		Shoulder Width, f	t	6	
Spee	d Limit, mi/h	50		Access Point Den	sity, pts/mi	4.0	
Dei	nand and Capacity						
Dire	tional Demand Flow Rate, veh/h	738		Opposing Deman	d Flow Rate, veh/h	-	
Peak	Hour Factor	0.96		Total Trucks, %		2.00	
Segr	nent Capacity, veh/h	1700		Demand/Capacity	(D/C)	0.43	
Inte	ermediate Results						
Segr	nent Vertical Class	1		Free-Flow Speed, mi/h		55.9	
Spee	d Slope Coefficient	3.59176		Speed Power Coefficient		0.41674	
PF S	ope Coefficient	-1.32959		PF Power Coefficient		0.74990	
In Pa	ssing Lane Effective Length?	No		Total Segment De	nsity, veh/mi/ln	9.1	
%lm	proved % Followers	0.0		% Improved Avg	Speed	0.0	
Sub	segment Data						
#	Segment Type	Length, ft	Rad	lius, ft	Superelevation, %	Average Speed, mi/h	
1	Tangent	5280	-		-	53.0	
Veł	icle Results						
Aver	age Speed, mi/h	53.0		Percent Followers	, %	65.3	
Segr	nent Travel Time, minutes	1.13		Followers Density	, followers/mi/ln	9.1	
Vehi	le LOS	с					
Copyri	ght $\ensuremath{\mathbb{C}}$ 2020 University of Florida. All Rights	Reserved. HCS 2_SR 29 – South of	🛙 Two-L Lodi Lan	ane Version 7.8 ne (NB) – Saturday PM -	- E.xuf	Generated: 12/06/2020 19:22:5	

	HCS7 Two-Lane Highway Report						
Pro	ject Information						
Ana	yst	КТ		Date		12/4/2020	
Age	псу	W-Trans		Analysis Year		2020	
Juris	diction	County of Napa	·	Time Period Analy	zed	Saturday PM Existing	
Proj	ect Description	SR 29 – South of Lodi Lane (SB) – Saturday PM		Unit		United States Customary	
		Se	egm	ent 1		- -	
Vel	nicle Inputs						
Segi	nent Type	Passing Constrained	1	Length, ft		5280	
Lane	Width, ft	12	:	Shoulder Width, ft	t	6	
Spee	ed Limit, mi/h	50		Access Point Dens	ity, pts/mi	10.0	
De	Demand and Capacity						
Dire	ctional Demand Flow Rate, veh/h	717		Opposing Demand Flow Rate, veh/h		-	
Peak	Hour Factor	0.96	•	Total Trucks, %		2.00	
Segi	nent Capacity, veh/h	1700	1	Demand/Capacity	(D/C)	0.42	
Int	ermediate Results						
Segi	nent Vertical Class	1		Free-Flow Speed, mi/h		54.4	
Spee	ed Slope Coefficient	3.51046	:	Speed Power Coefficient		0.41674	
PF S	lope Coefficient	-1.34026		PF Power Coefficient		0.74575	
In Pa	ssing Lane Effective Length?	No	·	Total Segment Density, veh/mi/ln		9.0	
%lm	proved % Followers	0.0		% Improved Avg S	Speed	0.0	
Sul	osegment Data						
#	Segment Type	Length, ft	Radiu	us, ft	Superelevation, %	Average Speed, mi/h	
1	Tangent	5280	-		-	51.6	
Vel	nicle Results					·	
Ave	age Speed, mi/h	51.6		Percent Followers,	%	64.8	
Seg	nent Travel Time, minutes	1.16		Followers Density,	followers/mi/ln	9.0	
Vehi	cle LOS	с					
Copyr	pyright © 2020 University of Florida. All Rights Reserved. HCS100 Two-Lane Version 7.8 Generated: 12/04/2020 13:04:20						

2_SR 29 - South of Lodi Lane (Southbound) - Weekend PM.xuf

HCS7 Two-Lane Highway Report								
Pro	Project Information							
Anal	yst	КТ		Date		12/4/2020		
Ager	псу	W-Trans		Analysis Year		2020		
Juris	diction	County of Napa		Time Period Analy	zed	Saturday PM Existing		
Project Description Driveway (EB) – PM		Lodi Ln – West of Proje Driveway (EB) – Saturd PM	ect lay	Unit		United States Customary		
Segment 1								
Veł	icle Inputs							
Segr	nent Type	Passing Constrained		Length, ft		5280		
Lane	Width, ft	14		Shoulder Width, fr	t	0		
Spee	d Limit, mi/h	45		Access Point Dens	iity, pts/mi	11.0		
Dei	nand and Capacity							
Dire	tional Demand Flow Rate, veh/h	51		Opposing Deman	d Flow Rate, veh/h	-		
Peak	Hour Factor	0.96		Total Trucks, %		2.00		
Segr	nent Capacity, veh/h	1700		Demand/Capacity	(D/C)	0.03		
Inte	ermediate Results							
Segr	nent Vertical Class	1		Free-Flow Speed, mi/h		45.5		
Spee	d Slope Coefficient	3.02537		Speed Power Coef	fficient	0.41674		
PF S	ope Coefficient	-1.38653		PF Power Coefficie	ent	0.71808		
In Pa	ssing Lane Effective Length?	No		Total Segment De	nsity, veh/mi/ln	0.2		
%lm	proved % Followers	0.0		% Improved Avg S	Speed	0.0		
Sub	osegment Data							
#	Segment Type	Length, ft	Radi	us, ft	Superelevation, %	Average Speed, mi/h		
1	Tangent	5280	-		-	45.5		
Veł	icle Results							
Aver	age Speed, mi/h	45.5		Percent Followers,	%	15.1		
Segr	nent Travel Time, minutes	1.32		Followers Density,	followers/mi/ln	0.2		
Vehi	cle LOS	A						
Copyri	opyright © 2020 University of Florida. All Rights Reserved. HCS 1000 Two-Lane Version 7.8 Generated: 12/04/2020 13:11:25							

Copyright © 2020 University of Florida. All Rights Reserved. HCS1000 Two-Lane Version 7.8 3_Lodi Ln – West of Project Driveway (Eastbound) – Weekend PM.xuf

		HCS7 Two-L	ane	Highway Re	eport	
Pro	oject Information					
Ana	lyst	КТ		Date		12/4/2020
Age	ncy	W-Trans		Analysis Year		2020
Juris	diction	County of Napa		Time Period Analy	zed	Saturday PM Existing
Proj	ct Description Lodi Ln – West of Project Driveway (WB) – Saturday PM		Unit		United States Customary	
		S	egn	nent 1		
Vel	hicle Inputs					
Seg	ment Type	Passing Constrained		Length, ft		5280
Lane	e Width, ft	14		Shoulder Width, f	t	0
Spee	ed Limit, mi/h	45		Access Point Dens	ity, pts/mi	10.0
De	mand and Capacity					
Dire	ctional Demand Flow Rate, veh/h	54		Opposing Deman	d Flow Rate, veh/h	
Peak	K Hour Factor	0.96		Total Trucks, %		2.00
Seg	ment Capacity, veh/h	1700		Demand/Capacity (D/C)		0.03
Int	ermediate Results					
Seg	ment Vertical Class	1		Free-Flow Speed, mi/h		45.7
Spee	ed Slope Coefficient	3.03892	Speed Power Coe		fficient	0.41674
PF S	lope Coefficient	-1.38571		PF Power Coefficient		0.71894
In Pa	assing Lane Effective Length?	No		Total Segment De	nsity, veh/mi/ln	0.2
%lm	proved % Followers	0.0		% Improved Avg	Speed	0.0
Sul	bsegment Data					
#	Segment Type	Length, ft	Rad	dius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	5280	-		-	45.7
Vel	hicle Results	-				
Ave	rage Speed, mi/h	45.7		Percent Followers	, %	15.7
Seg	ment Travel Time, minutes	1.31		Followers Density	followers/mi/ln	0.2
Vehi	icle LOS	A				
Copyr	ight © 2020 University of Florida. All Right	Reserved. HCSTM	ສ Two-L	ane Version 7.8		Generated: 12/04/2020 13:16:

3_Lodi Ln – West of Project Driveway (Westbound) – Weekend PM.xuf

		HCS7 Two-	Lane	e Highway Re	eport			
Pro	ject Information							
Anal	yst	КТ		Date		12/4/2020		
Ager	псу	W-Trans		Analysis Year		2020		
Juris	diction	County of Napa		Time Period Analy	zed	Saturday PM Existing		
Project Description		Lodi Ln – East of Pro Driveway (EB) – Satu PM	oject urday	Unit		United States Customary		
	Segment 1							
Veh	icle Inputs							
Segr	nent Type	Passing Constrained	1	Length, ft		5280		
Lane	Width, ft	14		Shoulder Width, ft	t	0		
Spee	d Limit, mi/h	45		Access Point Dens	iity, pts/mi	0.0		
Der	nand and Capacity							
Direc	tional Demand Flow Rate, veh/h	51		Opposing Deman	d Flow Rate, veh/h	-		
Peak	Hour Factor	0.91		Total Trucks, %		3.00		
Segr	nent Capacity, veh/h	1700		Demand/Capacity	(D/C)	0.03		
Inte	ermediate Results							
Segn	nent Vertical Class	1		Free-Flow Speed,	Free-Flow Speed, mi/h 48.2			
Spee	d Slope Coefficient	3.17262		Speed Power Coel	fficient	0.41674		
PF SI	ope Coefficient	-1.37591		PF Power Coefficie	ent	0.72726		
In Pa	ssing Lane Effective Length?	No		Total Segment De	nsity, veh/mi/ln	0.2		
%lm	proved % Followers	0.0		% Improved Avg S	Speed	0.0		
Sub	osegment Data							
#	Segment Type	Length, ft	Ra	idius, ft	Superelevation, %	Average Speed, mi/h		
1	Tangent	5280	-		-	48.2		
Veh	icle Results							
Aver	age Speed, mi/h	48.2		Percent Followers,	%	14.5		
Segn	nent Travel Time, minutes	1.24		Followers Density,	followers/mi/ln	0.2		
Vehi	cle LOS	A						
Copyri	opyright © 2020 University of Florida. All Rights Reserved. HCS1000 Two-Lane Version 7.8 Generated: 12/04/2020 13:21:							

Reserved. HCS1000 Two-Lane Version 7.8 4_Lodi Ln – East of Project Driveway (Eastbound) – Weekend PM.xuf

		HCS7 Two-La	ane	Highway Re	eport	
Pro	oject Information					
Ana	lyst	КТ		Date		12/4/20
Age	ncy	W-Trans		Analysis Year		2020
Juri	sdiction	County of Napa		Time Period Analy	zed	Saturday PM Existing
Proj	ect Description	t Description Lodi Ln – East of Project Driveway (WB) – Saturday PM		Unit		United States Customary
		S	egn	nent 1		
Ve	hicle Inputs					
Seg	ment Type	Passing Constrained		Length, ft		5280
Lan	e Width, ft	14		Shoulder Width, f	t	0
Spe	ed Limit, mi/h	45		Access Point Dens	iity, pts/mi	0.0
De	mand and Capacity					
Dire	ctional Demand Flow Rate, veh/h	67		Opposing Demand Flow Rate, veh/h		
Pea	k Hour Factor	0.91		Total Trucks, %		3.00
Seg	ment Capacity, veh/h	1700		Demand/Capacity	r (D/C)	0.04
Int	ermediate Results					
Seg	ment Vertical Class	1		Free-Flow Speed,	mi/h	48.2
Spe	ed Slope Coefficient	3.17262		Speed Power Coe	fficient	0.41674
PF S	ilope Coefficient	-1.37591		PF Power Coefficie	ent	0.72726
In P	assing Lane Effective Length?	No		Total Segment De	nsity, veh/mi/ln	0.2
%ln	nproved % Followers	0.0		% Improved Avg S	Speed	0.0
Su	bsegment Data					
#	Segment Type	Length, ft	Rac	dius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	5280	-		-	48.2
Ve	hicle Results					
Ave	rage Speed, mi/h	48.2		Percent Followers,	, %	17.5
Seg	ment Travel Time, minutes	1.24		Followers Density,	followers/mi/ln	0.2
Veh	icle LOS	A				
Соруг	ight © 2020 University of Florida. All Rights	Reserved. HCS100	Two-L	ane Version 7.8		Generated: 12/04/2020 13:25:46

4_Lodi Ln – East of Project Driveway (Westbound) – Weekend PM.xuf

		HCS7 Two-La	ne Highway F	Report				
Pro	ject Information							
Anal	yst	КТ	Date		12/4/20			
Ager	псу	W-Trans	Analysis Year		2020			
Juris	diction	County of Napa	Time Period Ana	alyzed	Saturday PM Existing			
Project Description Silverado Lodi Lane PM		Silverado Trail – North o Lodi Lane (NB) – Saturd PM	of Unit lay		United States Customary			
Segment 1								
Veł	icle Inputs							
Segr	nent Type	Passing Constrained	Length, ft		5280			
Lane	Width, ft	12	Shoulder Width,	ft	6			
Spee	d Limit, mi/h	45	Access Point De	nsity, pts/mi	5.0			
Dei	nand and Capacity							
Dire	tional Demand Flow Rate, veh/h	342	Opposing Dema	and Flow Rate, veh/h	-			
Peak	Hour Factor	0.91	Total Trucks, %		3.00			
Segr	nent Capacity, veh/h	1700	Demand/Capaci	ty (D/C)	0.20			
Inte	ermediate Results							
Segr	nent Vertical Class	1	Free-Flow Speed	Free-Flow Speed, mi/h 50.0				
Spee	d Slope Coefficient	3.26747	Speed Power Co	pefficient	0.41674			
PF S	ope Coefficient	-1.36740	PF Power Coeffi	cient	0.73276			
In Pa	ssing Lane Effective Length?	No	Total Segment D	Density, veh/mi/ln	3.3			
%lm	proved % Followers	0.0	% Improved Ave	g Speed	0.0			
Sub	osegment Data							
#	Segment Type	Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h			
1	Tangent	5280	-	-	48.1			
Veł	icle Results							
Aver	age Speed, mi/h	48.1	Percent Followe	rs, %	46.3			
Segr	nent Travel Time, minutes	1.25	Followers Densi	ty, followers/mi/ln	3.3			
Vehi	cle LOS	В						
Copyri	opyright © 2020 University of Florida. All Rights Reserved. HCS1000 Two-Lane Version 7.8 Generated: 12/04/2020 13:33:07							

s Reserved. HCS1000 Two-Lane Version 7.8 5_Silverado Trail – North of Lodi Lane (Northbound) – Weekend PM.xuf

		HCS7 Two-La	ane	e Highway Re	eport	
Pro	oject Information					
Ana	lyst	КТ		Date		12/4/20
Age	ncy	W-Trans		Analysis Year		2020
Juri	sdiction	County of Napa		Time Period Analy	zed	Saturday PM Existing
Proj	ect Description	cription Silverado Trail – North of Lodi Lane (SB) – Saturday PM		Unit		United States Customary
		S	egr	nent 1		
Ve	hicle Inputs					
Seg	ment Type	Passing Constrained		Length, ft		5280
Lan	e Width, ft	12		Shoulder Width, f	t	6
Spe	ed Limit, mi/h	45		Access Point Dens	iity, pts/mi	1.0
De	mand and Capacity					
Dire	ectional Demand Flow Rate, veh/h	312		Opposing Deman	d Flow Rate, veh/h	-
Pea	k Hour Factor	0.91		Total Trucks, %		3.00
Seg	ment Capacity, veh/h	1700		Demand/Capacity	r (D/C)	0.18
Int	ermediate Results					
Seg	ment Vertical Class	1		Free-Flow Speed, mi/h		51.0
Spe	ed Slope Coefficient	3.32167		Speed Power Coe	fficient	0.41674
PF S	ilope Coefficient	-1.36197		PF Power Coefficie	ent	0.73580
In P	assing Lane Effective Length?	No		Total Segment De	nsity, veh/mi/ln	2.8
%ln	nproved % Followers	0.0		% Improved Avg S	Speed	0.0
Su	bsegment Data					
#	Segment Type	Length, ft	Rad	dius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	5280	-		-	49.2
Ve	hicle Results					
Ave	rage Speed, mi/h	49.2		Percent Followers,	, %	43.9
Seg	ment Travel Time, minutes	1.22		Followers Density,	followers/mi/ln	2.8
Veh	icle LOS	В				
Соруг	ight © 2020 University of Florida. All Rights	Reserved. HCSTM	Two-I	Lane Version 7.8		Generated: 12/04/2020 13:36:3

Rights Reserved. HCS We Invo-Lane version 7.9 5_Silverado Trail – North of Lodi Lane (Southbound) – Weekend PM.xuf

		HCS7 Two-La	ne	Highway Re	eport			
Pro	Project Information							
Anal	yst	KT		Date		12/4/20		
Ager	су	W-Trans		Analysis Year		2020		
Juris	diction	County of Napa		Time Period Analy	zed	Saturday PM Existing		
Project Description Silverado Trail – Sou Lodi Lane (NB) – Sat PM		Silverado Trail – South Lodi Lane (NB) – Saturo PM	of day	Unit		United States Customary		
	Segment 1							
Veh	icle Inputs							
Segr	nent Type	Passing Constrained		Length, ft		5280		
Lane	Width, ft	12		Shoulder Width, f	t	6		
Spee	d Limit, mi/h	45		Access Point Dens	iity, pts/mi	5.0		
Der	mand and Capacity							
Direc	tional Demand Flow Rate, veh/h	358		Opposing Deman	d Flow Rate, veh/h	-		
Peak	Hour Factor	0.91		Total Trucks, %		3.00		
Segr	nent Capacity, veh/h	1700		Demand/Capacity	(D/C)	0.21		
Inte	ermediate Results							
Segn	nent Vertical Class	1		Free-Flow Speed, mi/h 50.0				
Spee	d Slope Coefficient	3.26747		Speed Power Coe	fficient	0.41674		
PF SI	ope Coefficient	-1.36740		PF Power Coefficie	ent	0.73276		
In Pa	ssing Lane Effective Length?	No		Total Segment De	nsity, veh/mi/ln	3.5		
%lm	proved % Followers	0.0		% Improved Avg S	Speed	0.0		
Suk	segment Data							
#	Segment Type	Length, ft	Rad	lius, ft	Superelevation, %	Average Speed, mi/h		
1	Tangent	5280	-		-	48.1		
Veh	icle Results							
Aver	age Speed, mi/h	48.1		Percent Followers,	%	47.5		
Segn	nent Travel Time, minutes	1.25		Followers Density,	followers/mi/ln	3.5		
Vehi	le LOS	В						
Copyri	opyright © 2020 University of Florida. All Rights Reserved. HCS 1000 Two-Lane Version 7.8 Generated: 12/04/2020 13:39:07							

s Reserved. HCS1000 Two-Lane Version 7.8 6_Silverado Trail – South of Lodi Lane (Northbound) – Weekend PM.xuf

		HCS7 Two-L	.ane	Highway Re	eport	
Pro	ject Information					
Anal	yst	КТ		Date		12/4/20
Age	ncy	W-Trans		Analysis Year		2020
Juris	diction	County of Napa		Time Period Analy	zed	Saturday PM Existing
Proj	ect Description	Silverado Trail – Sout Lodi Lane (SB) – Satu PM	- South of Unit - Saturday			United States Customary
		S	Segn	nent 1		
Veł	nicle Inputs					
Segr	ment Type	Passing Constrained		Length, ft		5280
Lane	e Width, ft	12		Shoulder Width, f	t	6
Spee	ed Limit, mi/h	45		Access Point Dens	iity, pts/mi	1.0
De	mand and Capacity					
Dire	ctional Demand Flow Rate, veh/h	312		Opposing Deman	d Flow Rate, veh/h	-
Peak	Hour Factor	0.91		Total Trucks, %		3.00
Segr	ment Capacity, veh/h	1700		Demand/Capacity	r (D/C)	0.18
Int	ermediate Results					
Segr	ment Vertical Class	1	Free-Flow Speed		mi/h	51.0
Spee	ed Slope Coefficient	3.32167		Speed Power Coe	fficient	0.41674
PF S	lope Coefficient	-1.36197		PF Power Coefficie	ent	0.73580
In Pa	assing Lane Effective Length?	No		Total Segment De	nsity, veh/mi/ln	2.8
%lm	proved % Followers	0.0		% Improved Avg S	Speed	0.0
Sul	osegment Data					
#	Segment Type	Length, ft	Rad	dius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	5280	-		-	49.2
Veł	nicle Results				·	
Aver	age Speed, mi/h	49.2		Percent Followers,	, %	43.9
Segr	ment Travel Time, minutes	1.22		Followers Density,	followers/mi/In	2.8
Vehi	cle LOS	В				
Copyri	ight © 2020 University of Florida. All Rights	Reserved. HCST	M Two-L	ane Version 7.8	word PM yuf	Generated: 12/04/2020 13:41:30

s Reserved. HCS1000 Two-Lane Version 7.8 6_Silverado Trail – South of Lodi Lane (Southbound) – Weekend PM.xuf

		HCS7 Two-L	ane	Highway R	eport	
Pro	ject Information					
Anal	yst	КТ		Date		12/4/20
Ager	ncy	W-Trans		Analysis Year		2020
Juris	diction	County of Napa		Time Period Analy	/zed	Friday PM Baseline
Proje	ect Description	SR 29 – North of Lodi (NB) – Friday PM	Lane	Unit		United States Customary
		S	egn	nent 1		
Veł	icle Inputs					
Segr	nent Type	Passing Constrained		Length, ft		5280
Lane	Width, ft	12		Shoulder Width, f	t	6
Spee	d Limit, mi/h	50		Access Point Den	sity, pts/mi	4.0
Dei	nand and Capacity					
Dire	tional Demand Flow Rate, veh/h	741		Opposing Demand Flow Rate, veh/h		-
Peak	Hour Factor	0.96		Total Trucks, %		4.00
Segr	nent Capacity, veh/h	1700		Demand/Capacity	/ (D/C)	0.44
Inte	ermediate Results					
Segr	nent Vertical Class	1		Free-Flow Speed, mi/h		55.9
Spee	d Slope Coefficient	3.58815		Speed Power Coe	fficient	0.41674
PF S	ope Coefficient	-1.32983		PF Power Coeffici	ent	0.75000
In Pa	ssing Lane Effective Length?	No		Total Segment De	ensity, veh/mi/ln	9.2
%lm	proved % Followers	0.0		% Improved Avg	Speed	0.0
Sub	segment Data					
#	Segment Type	Length, ft	Rad	lius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	5280	-		-	52.9
Veł	icle Results					
Average Speed, mi/h 52.9			Percent Followers	i, %	65.4	
Segr	nent Travel Time, minutes	1.13		Followers Density	, followers/mi/ln	9.2
Vehi	le LOS	С				
Copyri	ght $©$ 2020 University of Florida. All Rights	Reserved. HCS100 1_SR 29 – North of	1 Two-Li Lodi La	ane Version 7.8 ne (NB) – Friday PM –	B.xuf	Generated: 12/06/2020 18:36:0

	HCS7 Two-Lane Highway Report						
Pro	ject Information						
Ana	lyst	KT	Date			12/4/2020	
Age	ncy	W-Trans	Analysis Y	ear		2020	
Juris	diction	County of Napa	Time Peri	od Analyz	ed	Friday PM Baseline	
Proj	ect Description	SR 29 – North of Lodi La (SB) – Friday PM	ane Unit			United States Customary	
		Se	gment 1				
Vel	nicle Inputs						
Seg	ment Type	Passing Constrained	Length, ft			5280	
Lane	e Width, ft	12	Shoulder	Width, ft		6	
Spe	ed Limit, mi/h	50	Access Po	int Densit	ty, pts/mi	10.0	
De	mand and Capacity						
Directional Demand Flow Rate, veh/h		677	Opposing	Demand	Flow Rate, veh/h	-	
Peal	Hour Factor	0.96	Total Truc	ks, %		4.00	
Seg	ment Capacity, veh/h	1700	Demand/	Capacity ((D/C)	0.40	
Int	ermediate Results						
Seg	ment Vertical Class	1	Free-Flow	Free-Flow Speed, mi/h		54.4	
Spe	ed Slope Coefficient	3.50685	Speed Po	Speed Power Coefficient		0.41674	
PF S	lope Coefficient	-1.34047	PF Power	PF Power Coefficient		0.74585	
In Pa	assing Lane Effective Length?	No	Total Seg	ment Den	sity, veh/mi/ln	8.3	
%lm	proved % Followers	0.0	% Improv	ed Avg Sp	peed	0.0	
Su	bsegment Data						
#	Segment Type	Length, ft	Radius, ft		Superelevation, %	Average Speed, mi/h	
1	Tangent	5280	-		-	51.6	
Vel	nicle Results						
Ave	rage Speed, mi/h	51.6	Percent Fe	ollowers, 9	%	63.3	
Seg	ment Travel Time, minutes	1.16	Followers	Density, f	followers/mi/ln	8.3	
Vehicle LOS C							
Copyr	ight © 2020 University of Florida. All Righ	ts Reserved. HCSTM T	wo-Lane Version 7	.8		Generated: 12/06/2020 19:03:4	

1_SR 29 - North of Lodi Lane (SB) - Friday PM - B.xuf

	HCS7 Two	o-Lane	Highway Re	eport	
Project Information					
Analyst	KT		Date		12/4/2020
Agency	W-Trans		Analysis Year		2020
Jurisdiction	County of Napa		Time Period Analy	/zed	Friday PM Baseline
Project Description	SR 29 – South of (NB) – Friday PM	Lodi Lane	Unit		United States Customary
		Segn	nent 1		
Vehicle Inputs					
Segment Type	Passing Constrain	ned	Length, ft		5280
Lane Width, ft	12		Shoulder Width, f	t	6
Speed Limit, mi/h	50		Access Point Dens	sity, pts/mi	4.0
Demand and Capacity					
Directional Demand Flow Rate, veh/h	744		Opposing Deman	d Flow Rate, veh/h	-
Peak Hour Factor	0.96		Total Trucks, %		4.00
Segment Capacity, veh/h	1700		Demand/Capacity	(D/C)	0.44
Intermediate Results					
Segment Vertical Class	1		Free-Flow Speed, mi/h 55.		55.9
Speed Slope Coefficient	3.58815		Speed Power Coefficient		0.41674
PF Slope Coefficient	-1.32983		PF Power Coefficie	ent	0.75000
In Passing Lane Effective Length?	No		Total Segment De	nsity, veh/mi/ln	9.2
%Improved % Followers	0.0		% Improved Avg	Speed	0.0
Subsegment Data					
# Segment Type	Length, ft	Rac	lius, ft	Superelevation, %	Average Speed, mi/h
1 Tangent	5280	-		-	52.9
Vehicle Results					
Average Speed, mi/h	52.9		Percent Followers	, %	65.5
Segment Travel Time, minutes	1.13		Followers Density	, followers/mi/ln	9.2
Vehicle LOS	С				

		HCS7 Two-Lar	ne Highway R	eport	
Pro	ject Information				
Anal	yst	КТ	Date		12/4/2020
Age	ncy	W-Trans	Analysis Year		2020
Juris	diction	County of Napa	Time Period Analy	yzed	Friday PM Baseline
Proje	ect Description	SR 29 – South of Lodi La (SB) – Friday PM	ne Unit		United States Customary
		Se	gment 1		
Veł	nicle Inputs				
Segr	nent Type	Passing Constrained	Length, ft		5280
Lane	e Width, ft	12	Shoulder Width, f	it	6
Spee	ed Limit, mi/h	50	Access Point Den	sity, pts/mi	10.0
De	mand and Capacity				
Dire	ctional Demand Flow Rate, veh/h	746	Opposing Deman	nd Flow Rate, veh/h	-
Peak	Hour Factor	0.96	Total Trucks, %		4.00
Segr	ment Capacity, veh/h	1700	Demand/Capacity	/ (D/C)	0.44
Int	ermediate Results				
Segr	ment Vertical Class	1	Free-Flow Speed,	mi/h	54.4
Spee	ed Slope Coefficient	3.50685	Speed Power Coe	fficient	0.41674
PF S	lope Coefficient	-1.34047	PF Power Coeffici	ent	0.74585
In Pa	assing Lane Effective Length?	No	Total Segment De	ensity, veh/mi/ln	9.6
%lm	proved % Followers	0.0	% Improved Avg	Speed	0.0
Sul	osegment Data				
#	Segment Type	Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	5280	-	-	51.4
Veł	nicle Results				
Aver	age Speed, mi/h	51.4	Percent Followers	i, %	65.9
Segr	ment Travel Time, minutes	1.17	Followers Density	, followers/mi/In	9.6
Vehi	cle LOS	С			
opyri	ght © 2020 University of Florida. All Rights	s Reserved. HCS TNU Tv	vo-Lane Version 7.8		Generated: 12/06/2020 19:05

2_SR 29 - South of Lodi Lane (SB) - Friday PM - B.xuf

		HCS7 Two-La	ne	Highway Re	eport			
Pro	ject Information							
Ana	lyst	КТ		Date		12/4/2020		
Age	ncy	W-Trans		Analysis Year		2020		
Juris	diction	County of Napa		Time Period Analy	zed	Friday PM Baseline		
Proj	ect Description	Lodi Ln – West of Proje Driveway (EB) – Friday	ect PM	Unit		United States Customary		
	Segment 1							
Vel	nicle Inputs							
Seg	ment Type	Passing Constrained		Length, ft		5280		
Lane	e Width, ft	14		Shoulder Width, f	t	0		
Spe	ed Limit, mi/h	45		Access Point Density, pts/mi		11.0		
De	mand and Capacity							
Directional Demand Flow Rate, veh/h		71		Opposing Deman	d Flow Rate, veh/h	-		
Peal	Hour Factor	0.96		Total Trucks, %		4.00		
Seg	ment Capacity, veh/h	1700		Demand/Capacity	(D/C)	0.04		
Int	ermediate Results							
Seg	ment Vertical Class	1		Free-Flow Speed, mi/h		45.4		
Spe	ed Slope Coefficient	3.02176		Speed Power Coefficient		0.41674		
PF S	lope Coefficient	-1.38649		PF Power Coefficient		0.71813		
In Pa	assing Lane Effective Length?	No		Total Segment De	nsity, veh/mi/ln	0.3		
%lm	proved % Followers	0.0		% Improved Avg S	Speed	0.0		
Sul	osegment Data							
#	Segment Type	Length, ft	Rad	lius, ft	Superelevation, %	Average Speed, mi/h		
1	Tangent	5280	-		-	45.4		
Vel	nicle Results							
Ave	rage Speed, mi/h	45.4		Percent Followers,	%	18.7		
Seg	ment Travel Time, minutes	1.32		Followers Density,	followers/mi/ln	0.3		
Vehi	cle LOS	A						
Copyr	opyright © 2020 University of Florida. All Rights Reserved. HCS 1000 Two-Lane Version 7.8 Generated: 12/06/2020 19:07:36							

3_Lodi Ln – West of Project Driveway (EB) – Friday PM – B.xuf

- Byuf

	HCS7 Two-Lane Highway Report								
Pro	ject Information								
Analy	vst	КТ		Date		12/4/2020			
Ager	су	W-Trans		Analysis Year		2020			
uriso	liction	County of Napa		Time Period Analy	zed	Friday PM Baseline			
Proje	ct Description	Lodi Ln – West of Proje Driveway (WB) – Friday	ct PM	Unit		United States Customary			
Segment 1									
Veh	icle Inputs								
Segn	nent Type	Passing Constrained		Length, ft		5280			
ane	Width, ft	14		Shoulder Width, ft	:	0			
Spee	d Limit, mi/h	45		Access Point Dens	ity, pts/mi	10.0			
Der	nand and Capacity								
Directional Demand Flow Rate, veh/h		136		Opposing Deman	d Flow Rate, veh/h	-			
Peak	Hour Factor	0.96		Total Trucks, %		4.00			
Segn	nent Capacity, veh/h	1700		Demand/Capacity	(D/C)	0.08			
nte	ermediate Results								
Segn	nent Vertical Class	1		Free-Flow Speed, mi/h		45.7			
Spee	d Slope Coefficient	3.03531		Speed Power Coefficient		0.41674			
PF SI	ope Coefficient	-1.38568		PF Power Coefficient		0.71899			
n Pa	ssing Lane Effective Length?	No		Total Segment De	nsity, veh/mi/ln	0.9			
%lm	proved % Followers	0.0		% Improved Avg S	peed	0.0			
Sub	segment Data								
ŧ	Segment Type	Length, ft	Radi	ius, ft	Superelevation, %	Average Speed, mi/h			
1	Tangent	5280	-		-	44.9			
Veh	icle Results								
Avera	age Speed, mi/h	44.9		Percent Followers,	%	28.2			
Segn	nent Travel Time, minutes	1.34		Followers Density,	followers/mi/ln	0.9			
/ehio	le LOS	А							
opyright © 2020 University of Florida. All Rights Reserved. HCST				ne Version 7.8	Generated: 12/06/2020 19:31:56				

3_Lodi Ln – West of Project Driveway (WB) – Friday PM – B.xuf

		HCS7 Two-La	ane	Highway Re	eport		
Pro	ject Information						
Ana	yst	КТ		Date		12/4/2020	
Age	псу	W-Trans	W-Trans			2020	
Juris	diction	County of Napa		Time Period Analy	zed	Friday PM Baseline	
Proj	ect Description	Lodi Ln – East of Proje Driveway (EB) – Friday	ect PM	Unit		United States Customary	
Segment 1							
Vel	nicle Inputs						
Segi	nent Type	Passing Constrained		Length, ft		5280	
Lane	Width, ft	14		Shoulder Width, f	t	0	
Spee	ed Limit, mi/h	45	45		sity, pts/mi	11.0	
De	mand and Capacity						
Directional Demand Flow Rate, veh/h		85		Opposing Deman	d Flow Rate, veh/h	-	
Peak	Hour Factor	0.96		Total Trucks, %		2.00	
Segi	nent Capacity, veh/h	1700		Demand/Capacity	r (D/C)	0.05	
Int	ermediate Results	-					
Segr	nent Vertical Class	1		Free-Flow Speed, mi/h		45.5	
Spee	ed Slope Coefficient	3.02537		Speed Power Coefficient		0.41674	
PF S	lope Coefficient	-1.38653		PF Power Coefficient		0.71808	
In Pa	ssing Lane Effective Length?	No		Total Segment De	nsity, veh/mi/ln	0.4	
%lm	proved % Followers	0.0		% Improved Avg	Speed	0.0	
Sul	osegment Data						
#	Segment Type	Length, ft	Rad	lius, ft	Superelevation, %	Average Speed, mi/h	
1	Tangent	5280	-		-	45.5	
Vel	nicle Results						
Aver	age Speed, mi/h	45.5		Percent Followers	, %	21.1	
Segr	nent Travel Time, minutes	1.32		Followers Density	, followers/mi/ln	0.4	
Vehi	cle LOS	A					
Copyr	opyright © 2020 University of Florida. All Rights Reserved. HCS1000 Two-Lane Version 7.8 Generated: 12/06/2020 19:47:0						

4_Lodi Ln – East of Project Driveway (EB) – Friday PM – B.xuf

riday PM – B xuf

		HCS7 Two-L	ane	Highway R	eport	
Pro	ject Information					
Anal	/st	КТ		Date		12/4/20
Ager	ю	W-Trans		Analysis Year		2020
uris	diction	County of Napa		Time Period Anal	yzed	Friday PM Baseline
Proje	ct Description	Lodi Ln – East of Project Driveway (WB) – Friday PM		Unit		United States Customary
		S	egn	nent 1		
Veh	icle Inputs					
Segn	nent Type	Passing Constrained		Length, ft		5280
ane	Width, ft	14		Shoulder Width,	ft	0
Spee	d Limit, mi/h	45		Access Point Den	isity, pts/mi	0.0
Der	nand and Capacity					
Direc	tional Demand Flow Rate, veh/h	tate, veh/h 121		Opposing Demai	nd Flow Rate, veh/h	-
Peak	Hour Factor	0.96		Total Trucks, %		2.00
Segn	nent Capacity, veh/h	1700		Demand/Capacit	y (D/C)	0.07
nte	ermediate Results					
Segn	nent Vertical Class	1		Free-Flow Speed, mi/h		48.2
Spee	d Slope Coefficient	3.17442		Speed Power Coefficient		0.41674
PF SI	ope Coefficient	-1.37589		PF Power Coefficient		0.72723
n Pa	ssing Lane Effective Length?	No		Total Segment Density, veh/mi/ln		0.7
%lm	proved % Followers	0.0		% Improved Avg	Speed	0.0
Sub	segment Data					
¥	Segment Type	Length, ft	Rad	ius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	5280	-		-	47.6
Veh	icle Results					•
Average Speed, mi/h 47.6			Percent Follower	s, %	25.6	
Segn	nent Travel Time, minutes	1.26		Followers Density	y, followers/mi/In	0.7
/ehio	le LOS	A				
opyri	ght © 2020 University of Florida. All Rights I	Reserved. HCSTM 4_Lodi Ln – East of Pro	I Two-Li ject Driv	ane Version 7.8 /eway (WB) – Friday P	M – B.xuf	Generated: 12/06/2020 19:47:51

	HCS7 Two-Lane Highway Report							
Pro	ject Information							
Ana	yst	КТ		Date		12/4/20		
Age	ncy	W-Trans	W-Trans			2020		
Juris	diction	County of Napa		Time Period Analy	zed	Friday PM Baseline		
Proj	ect Description	Silverado Trail – North Lodi Lane (NB) – Friday	of y PM	Unit		United States Customary		
Segment 1								
Vel	Vehicle Inputs							
Segi	nent Type	Passing Constrained		Length, ft		5280		
Lane	Width, ft	12		Shoulder Width, f	t	6		
Spee	ed Limit, mi/h	45		Access Point Density, pts/mi		5.0		
De	Demand and Capacity							
Dire	ctional Demand Flow Rate, veh/h	346		Opposing Deman	d Flow Rate, veh/h	-		
Peak	Hour Factor	0.96		Total Trucks, %		2.00		
Segi	ment Capacity, veh/h	1700		Demand/Capacity	(D/C)	0.20		
Int	ermediate Results							
Segi	nent Vertical Class	1		Free-Flow Speed, mi/h		50.0		
Spee	ed Slope Coefficient	3.26927		Speed Power Coefficient		0.41674		
PF S	lope Coefficient	-1.36736		PF Power Coefficient		0.73272		
In Pa	assing Lane Effective Length?	No		Total Segment De	nsity, veh/mi/ln	3.3		
%lm	proved % Followers	0.0		% Improved Avg S	Speed	0.0		
Sul	osegment Data							
#	Segment Type	Length, ft	Rad	lius, ft	Superelevation, %	Average Speed, mi/h		
1	Tangent	5280	-		-	48.2		
Vel	nicle Results							
Aver	age Speed, mi/h	48.2		Percent Followers,	%	46.6		
Segr	ment Travel Time, minutes	1.25		Followers Density,	followers/mi/ln	3.3		
Vehi	cle LOS	В						
Copyr	opyright © 2020 University of Florida. All Rights Reserved. HCS1000 Two-Lane Version 7.8 Generated: 12/06/2020 19:48:32							

5_Silverado Trail – North of Lodi Lane (NB) – Friday PM – B.xuf

HCS7 Two-Lane Highway Report								
Project Information								
Analyst	КТ		Date		12/4/20			
Agency	W-Trans	W-Trans			2020			
Jurisdiction	County of Napa		Time Period Analy	/zed	Friday PM Baseline			
Project Description	Silverado Trail – N Lodi Lane (SB) – F	North of Friday PM	Unit		United States Customary			
		Segn	nent 1		·			
Vehicle Inputs								
Segment Type	Passing Constrain	ned	Length, ft		5280			
Lane Width, ft	12		Shoulder Width, f	t	6			
Speed Limit, mi/h	45		Access Point Den	sity, pts/mi	1.0			
Demand and Capacity								
Directional Demand Flow Rate, veh/h 329			Opposing Deman	d Flow Rate, veh/h	-			
Peak Hour Factor	0.96		Total Trucks, %		2.00			
Segment Capacity, veh/h	1700		Demand/Capacity	/ (D/C)	0.19			
Intermediate Results								
Segment Vertical Class	1		Free-Flow Speed, mi/h		51.0			
Speed Slope Coefficient	3.32347		Speed Power Coefficient		0.41674			
PF Slope Coefficient	-1.36191		PF Power Coefficient		0.73576			
In Passing Lane Effective Length?	No		Total Segment De	ensity, veh/mi/ln	3.0			
%Improved % Followers	0.0		% Improved Avg	Speed	0.0			
Subsegment Data								
# Segment Type	Length, ft	Rac	dius, ft	Superelevation, %	Average Speed, mi/h			
1 Tangent	5280	-		-	49.2			
Vehicle Results					·			
Average Speed, mi/h	49.2		Percent Followers	, %	45.2			
Segment Travel Time, minutes	1.22		Followers Density	, followers/mi/In	3.0			
Vehicle LOS	В							
Copyright © 2020 University of Florida. All Righ	ts Reserved. H 5 Silverado Trail –	CS1000 Two-L	ane Version 7.8 di Lane (SB) – Friday Pl	и – B.xuf	Generated: 12/06/2020 19:49:1			

	HCS7 Two-Lane Highway Report							
Pro	ject Information							
Ana	yst	КТ		Date		12/4/20		
Age	ncy	W-Trans	W-Trans			2020		
Juris	diction	County of Napa		Time Period Analy	zed	Friday PM Baseline		
Proj	ect Description	Silverado Trail – South Lodi Lane (NB) – Friday	of y PM	Unit		United States Customary		
	Segment 1							
Vel	Vehicle Inputs							
Segi	nent Type	Passing Constrained		Length, ft		5280		
Lane	Width, ft	12		Shoulder Width, f	t	6		
Spee	ed Limit, mi/h	45	45		ity, pts/mi	5.0		
De	Demand and Capacity							
Dire	ctional Demand Flow Rate, veh/h	379		Opposing Deman	d Flow Rate, veh/h	-		
Peak	Hour Factor	0.96		Total Trucks, %		2.00		
Segi	ment Capacity, veh/h	1700		Demand/Capacity	(D/C)	0.22		
Int	ermediate Results							
Segi	nent Vertical Class	1		Free-Flow Speed, mi/h		50.0		
Spee	ed Slope Coefficient	3.26927		Speed Power Coefficient		0.41674		
PF S	lope Coefficient	-1.36736		PF Power Coefficient		0.73272		
In Pa	assing Lane Effective Length?	No		Total Segment De	nsity, veh/mi/ln	3.9		
%lm	proved % Followers	0.0		% Improved Avg S	Speed	0.0		
Sul	osegment Data							
#	Segment Type	Length, ft	Rad	lius, ft	Superelevation, %	Average Speed, mi/h		
1	Tangent	5280	-		-	48.1		
Vel	nicle Results							
Aver	age Speed, mi/h	48.1		Percent Followers,	%	48.9		
Segr	ment Travel Time, minutes	1.25		Followers Density, followers/mi/ln		3.9		
Vehi	cle LOS	В						
Copyr	opyright © 2020 University of Florida. All Rights Reserved. HCS100 Two-Lane Version 7.8 Generated: 12/06/2020 19:50-3							

6_Silverado Trail – South of Lodi Lane (NB) – Friday PM – B.xuf

	HCS7 Two-Lane Highway Report								
Pro	ject Information								
Anal	yst	КТ		Date		12/4/20			
Age	псу	W-Trans		Analysis Year		2020			
Juris	diction	County of Napa		Time Period Analy	zed	Friday PM Baseline			
Proje	ect Description	Silverado Trail – South Lodi Lane (SB) – Friday	of PM	Unit		United States Customary			
Segment 1									
Vehicle Inputs									
Segr	nent Type	Passing Constrained		Length, ft		5280			
Lane	Width, ft	12		Shoulder Width, f	t	6			
Spee	ed Limit, mi/h	45		Access Point Dens	ity, pts/mi	1.0			
De	Demand and Capacity								
Directional Demand Flow Rate, veh/h 327		327		Opposing Deman	d Flow Rate, veh/h	-			
Peak	Hour Factor	0.96		Total Trucks, %		2.00			
Segr	nent Capacity, veh/h	1700		Demand/Capacity	r (D/C)	0.19			
Int	ermediate Results								
Segr	nent Vertical Class	1		Free-Flow Speed, mi/h		51.0			
Spee	ed Slope Coefficient	3.32347		Speed Power Coe	fficient	0.41674			
PF S	lope Coefficient	-1.36191		PF Power Coefficient		0.73576			
In Pa	ssing Lane Effective Length?	No		Total Segment Density, veh/mi/ln		3.0			
%lm	proved % Followers	0.0		% Improved Avg S	Speed	0.0			
Sul	osegment Data								
#	Segment Type	Length, ft	Rad	lius, ft	Superelevation, %	Average Speed, mi/h			
1	Tangent	5280	-		-	49.2			
Veł	nicle Results	·			·	÷.			
Aver	age Speed, mi/h	49.2		Percent Followers,	, %	45.0			
Segr	nent Travel Time, minutes	1.22		Followers Density,	followers/mi/ln	3.0			
Vehi	cle LOS	В							
Copyri	opyright © 2020 University of Florida. All Rights Reserved. HCS1000 Two-Lane Version 7.8 Generated: 12/06/2020 19:51:10								

6_Silverado Trail – South of Lodi Lane (SB) – Friday PM – B.xuf

	HCS7 Two-Lane Highway Report							
Pro	Project Information							
Anal	yst	КТ	Date	Date		12/4/20		
Age	псу	W-Trans	Analysis	/ear		2020		
Juris	diction	County of Napa	Time Peri	od Analy	zed	Saturday PM Baseline		
Proje	ect Description	SR 29 – North of Lodi La (NB) – Saturday PM	ane Unit			United States Customary		
Segment 1								
Veł	Vehicle Inputs							
Segr	nent Type	Passing Constrained	Length, f	t		5280		
Lane	Width, ft	12	Shoulder	Width, f	t	6		
Spee	ed Limit, mi/h	50	Access Po	oint Dens	ity, pts/mi	4.0		
De	Demand and Capacity							
Dire	ctional Demand Flow Rate, veh/h	719	Opposing	Opposing Demand Flow Rate, veh/h		-		
Peak	Hour Factor	0.96	Total Truc	:ks, %		2.00		
Segr	nent Capacity, veh/h	1700	Demand/	Capacity	(D/C)	0.42		
Int	ermediate Results							
Segr	nent Vertical Class	1	Free-Flov	Free-Flow Speed, mi/h		55.9		
Spee	ed Slope Coefficient	3.59176	Speed Po	Speed Power Coefficient		0.41674		
PF S	lope Coefficient	-1.32959	PF Power	PF Power Coefficient		0.74990		
In Pa	issing Lane Effective Length?	No	Total Seg	ment De	nsity, veh/mi/ln	8.8		
%lm	proved % Followers	0.0	% Improv	ed Avg S	Speed	0.0		
Sul	osegment Data							
#	Segment Type	Length, ft	Radius, ft		Superelevation, %	Average Speed, mi/h		
1	Tangent	5280	-		-	53.0		
Veł	nicle Results	· · · · ·						
Aver	age Speed, mi/h	53.0	Percent F	ollowers,	%	64.6		
Segr	nent Travel Time, minutes	1.13	Followers	Followers Density, followers/mi/ln		8.8		
Vehi	cle LOS	с						
Copyri	opyright © 2020 University of Florida. All Rights Reserved. HCS 🛍 Two-Lane Version 7.8 Generated: 12/06/2020 19:55:34							

Copyright © 2020 University of Florida. All Rights Reserved. HCS1000 I wo-Lane version i .o. 1_SR 29 – North of Lodi Lane (NB) – Saturday PM – B.xuf

		HCS7 Two	-Lane	Highway Re	eport	
Pro	ject Information					
Ana	lyst	KT		Date		12/4/2020
Age	ncy	W-Trans		Analysis Year		2020
Juris	diction	County of Napa		Time Period Analy	zed	Saturday PM Baseline
Proj	ect Description	SR 29 – North of L (SB) – Saturday PM	odi Lane 1	Unit		United States Customary
			Segn	nent 1		
Vel	nicle Inputs					
Segi	ment Type	Passing Constraine	ed	Length, ft		5280
Lane	e Width, ft	12		Shoulder Width, f	t	6
Spee	ed Limit, mi/h	50	50		iity, pts/mi	10.0
De	mand and Capacity					
Dire	ctional Demand Flow Rate, veh/h	716		Opposing Deman	d Flow Rate, veh/h	-
Peak	Hour Factor	0.96		Total Trucks, %		2.00
Segi	ment Capacity, veh/h	1700		Demand/Capacity	r (D/C)	0.42
Int	ermediate Results					
Segi	ment Vertical Class	1		Free-Flow Speed, mi/h		54.4
Spee	ed Slope Coefficient	3.51046		Speed Power Coefficient		0.41674
PF S	lope Coefficient	-1.34026		PF Power Coefficient		0.74575
In Pa	assing Lane Effective Length?	No		Total Segment Density, veh/mi/ln		9.0
%lm	proved % Followers	0.0		% Improved Avg S	Speed	0.0
Sul	bsegment Data					
#	Segment Type	Length, ft	Rac	dius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	5280	-		-	51.6
Vel	nicle Results					
Ave	rage Speed, mi/h	51.6		Percent Followers,	, %	64.8
Seg	ment Travel Time, minutes	1.16		Followers Density,	followers/mi/ln	9.0
Vehi	cle LOS	С				
Copyr	ight © 2020 University of Florida. All Righ	ts Reserved. HC	S1000 Two-L	ane Version 7.8		Generated: 12/06/2020 19:56:29

1_SR 29 - North of Lodi Lane (SB) - Saturday PM - B.xuf

	HCS7 Two	-Lane	Highway Re	eport	
Project Information					
Analyst	KT		Date		12/4/20
Agency	W-Trans		Analysis Year		2020
Jurisdiction	County of Napa		Time Period Analy	zed	Saturday PM Baseline
Project Description	SR 29 – South of (NB) – Saturday P	SR 29 – South of Lodi Lane (NB) – Saturday PM			United States Customary
		Segn	nent 1		
Vehicle Inputs					
Segment Type	Passing Constrain	ed	Length, ft		5280
Lane Width, ft	12		Shoulder Width, f	t	6
Speed Limit, mi/h	50		Access Point Dens	sity, pts/mi	4.0
Demand and Capacity					
Directional Demand Flow Rate, ve	h/h 733		Opposing Deman	d Flow Rate, veh/h	-
Peak Hour Factor	0.96		Total Trucks, %		2.00
Segment Capacity, veh/h	1700		Demand/Capacity	r (D/C)	0.43
Intermediate Results					
Segment Vertical Class	1		Free-Flow Speed, mi/h		55.9
Speed Slope Coefficient	3.59176		Speed Power Coefficient		0.41674
PF Slope Coefficient	-1.32959		PF Power Coefficient		0.74990
In Passing Lane Effective Length?	No		Total Segment De	nsity, veh/mi/ln	9.0
%Improved % Followers	0.0		% Improved Avg	Speed	0.0
Subsegment Data			·		
# Segment Type	Length, ft	Rac	lius, ft	Superelevation, %	Average Speed, mi/h
1 Tangent	5280	-		-	53.0
Vehicle Results				·	
Average Speed, mi/h	53.0		Percent Followers	, %	65.1
Segment Travel Time, minutes	1.13		Followers Density	, followers/mi/ln	9.0
Vehicle LOS	С				
Copyright © 2020 University of Florida. Al	Rights Reserved. H 2_SR 29 – South	CS1100 Two-L n of Lodi Lan	ane Version 7.8 ne (NB) – Saturday PM -	- B.xuf	Generated: 12/06/2020 19:57:4

	HCS7 Two-Lane Highway Report								
Pro	ject Information								
Ana	lyst	KT		Date		12/4/2020			
Age	ncy	W-Trans		Analysis Year		2020			
Juris	diction	County of Napa	County of Napa		zed	Saturday PM Baseline			
Proj	ect Description	SR 29 – South of Lod (SB) – Saturday PM	li Lane	Unit		United States Customary			
		9	Segn	nent 1					
Vel	hicle Inputs								
Seg	ment Type	Passing Constrained		Length, ft		5280			
Lane	e Width, ft	12		Shoulder Width, f	t	6			
Spe	ed Limit, mi/h	50	50		ity, pts/mi	10.0			
De	mand and Capacity								
Directional Demand Flow Rate, veh/h 729		729		Opposing Deman	d Flow Rate, veh/h	-			
Peal	K Hour Factor	0.96		Total Trucks, %		2.00			
Seg	ment Capacity, veh/h	1700		Demand/Capacity	(D/C)	0.43			
Int	ermediate Results								
Seg	ment Vertical Class	1		Free-Flow Speed, mi/h		54.4			
Spe	ed Slope Coefficient	3.51046		Speed Power Coefficient		0.41674			
PF S	lope Coefficient	-1.34026		PF Power Coefficient		0.74575			
In Pa	assing Lane Effective Length?	No		Total Segment De	nsity, veh/mi/ln	9.2			
%lm	proved % Followers	0.0		% Improved Avg S	speed	0.0			
Su	bsegment Data								
#	Segment Type	Length, ft	Rad	lius, ft	Superelevation, %	Average Speed, mi/h			
1	Tangent	5280	-		-	51.5			
Vel	hicle Results								
Ave	rage Speed, mi/h	51.5		Percent Followers,	%	65.3			
Seg	ment Travel Time, minutes	1.16		Followers Density,	followers/mi/ln	9.2			
Veh	icle LOS	С							
Copyr	ight © 2020 University of Florida. All Right	s Reserved. HCS។	M Two-L	ane Version 7.8		Generated: 12/06/2020 20:00:0			

2_SR 29 - South of Lodi Lane (SB) - Saturday PM - B.xuf

	HCS7 Two-Lane Highway Report							
Pro	ject Information							
Anal	yst	КТ		Date		12/4/2020		
Ager	псу	W-Trans		Analysis Year		2020		
Juris	diction	County of Napa		Time Period Analy	zed	Saturday PM Baseline		
Proje	ect Description	Lodi Ln – West of Proje Driveway (EB) – Saturd PM	ect lay	Unit		United States Customary		
	Segment 1							
Veh	icle Inputs							
Segr	nent Type	Passing Constrained		Length, ft		5280		
Lane	Width, ft	14		Shoulder Width, ff	t	0		
Spee	d Limit, mi/h	45		Access Point Density, pts/mi		11.0		
Der	nand and Capacity							
Direc	tional Demand Flow Rate, veh/h	68		Opposing Deman	d Flow Rate, veh/h	-		
Peak	Hour Factor	0.96		Total Trucks, %		2.00		
Segr	nent Capacity, veh/h	1700		Demand/Capacity	(D/C)	0.04		
Inte	ermediate Results							
Segn	nent Vertical Class	1		Free-Flow Speed, mi/h		45.5		
Spee	d Slope Coefficient	3.02537		Speed Power Coefficient		0.41674		
PF SI	ope Coefficient	-1.38653		PF Power Coefficient		0.71808		
In Pa	ssing Lane Effective Length?	No		Total Segment Density, veh/mi/ln		0.3		
%lm	proved % Followers	0.0		% Improved Avg Speed		0.0		
Sub	osegment Data							
#	Segment Type	Length, ft	Rad	dius, ft	Superelevation, %	Average Speed, mi/h		
1	Tangent	5280	-		-	45.5		
Veh	icle Results							
Aver	age Speed, mi/h	45.5		Percent Followers,	%	18.2		
Segn	nent Travel Time, minutes	1.32		Followers Density,	followers/mi/ln	0.3		
Vehi	cle LOS	A						
Copyri	opyright © 2020 University of Florida. All Rights Reserved. HCS 1000 Two-Lane Version 7.8 Generated: 12/06/2020 20:00:55							

eserved. HCS1000 Two-Lane Version 7.8 3_Lodi Ln – West of Project Driveway (EB) – Saturday PM – B.xuf

		HCS7 IWO-	Lane	Highway Re	eport	
Project	Information					
Analyst		КТ		Date		12/4/2020
Agency W-Trans		Analysis Year		2020		
Jurisdictio	n	County of Napa		Time Period Analy	zed	Saturday PM Baseline
Project De	escription	Lodi Ln – West of Project Driveway (WB) – Saturday PM		Unit		United States Customary
			Segn	nent 1		
Vehicle	Inputs					
Segment 1	Туре	Passing Constrained	ł	Length, ft		5280
Lane Widt	:h, ft	14		Shoulder Width, f	t	0
Speed Lim	nit, mi/h	45		Access Point Dens	ity, pts/mi	10.0
Deman	d and Capacity					
Directiona	I Demand Flow Rate, veh/h	67		Opposing Deman	d Flow Rate, veh/h	
Peak Hour	r Factor	0.96		Total Trucks, %		2.00
Segment (Capacity, veh/h	1700		Demand/Capacity	(D/C)	0.04
Interm	ediate Results					
Segment \	Vertical Class	1		Free-Flow Speed, mi/h		45.7
Speed Slo	pe Coefficient	3.03892		Speed Power Coe	fficient	0.41674
PF Slope C	Coefficient	-1.38571		PF Power Coefficient		0.71894
In Passing	Lane Effective Length?	No		Total Segment Density, veh/mi/ln		0.3
%Improve	ed % Followers	0.0		% Improved Avg	speed	0.0
Subseg	ment Data					
# Segi	ment Type	Length, ft	Rad	dius, ft	Superelevation, %	Average Speed, mi/h
1 Tang	gent	5280	-		-	45.7
Vehicle	Results					
Average S	peed, mi/h	45.7		Percent Followers	%	17.9
Segment 1	Travel Time, minutes	1.31	Followers Densit		followers/mi/ln	0.3
Vehicle LO)S	A				

3_Lodi Ln – West of Project Driveway (WB) – Saturday PM – B.xuf

		HCS7 Two-	Lane	e Highway Re	eport			
Pro	ject Information							
Anal	yst	КТ		Date		12/4/2020		
Ager	псу	W-Trans		Analysis Year		2020		
Juris	diction	County of Napa	County of Napa		zed	Saturday PM Baseline		
Project Description Lodi Ln – East of Driveway (EB) – S PM		Lodi Ln – East of Pro Driveway (EB) – Satu PM	oject urday	Unit		United States Customary		
	Segment 1							
Veh	icle Inputs							
Segr	nent Type	Passing Constrained	ł	Length, ft		5280		
Lane	Width, ft	14		Shoulder Width, ft	t	0		
Spee	d Limit, mi/h	45		Access Point Density, pts/mi		0.0		
Der	nand and Capacity							
Direc	ctional Demand Flow Rate, veh/h	56		Opposing Deman	d Flow Rate, veh/h	-		
Peak	Hour Factor	0.91		Total Trucks, %		3.00		
Segr	nent Capacity, veh/h	1700		Demand/Capacity	(D/C)	0.03		
Inte	ermediate Results							
Segn	nent Vertical Class	1		Free-Flow Speed, mi/h		48.2		
Spee	d Slope Coefficient	3.17262		Speed Power Coefficient		0.41674		
PF SI	ope Coefficient	-1.37591		PF Power Coefficie	ent	0.72726		
In Pa	ssing Lane Effective Length?	No		Total Segment De	nsity, veh/mi/ln	0.2		
%lm	proved % Followers	0.0		% Improved Avg S	Speed	0.0		
Sub	osegment Data							
#	Segment Type	Length, ft	Ra	adius, ft	Superelevation, %	Average Speed, mi/h		
1	Tangent	5280	-		-	48.2		
Veh	icle Results							
Aver	age Speed, mi/h	48.2		Percent Followers,	%	15.6		
Segn	nent Travel Time, minutes	1.24		Followers Density,	followers/mi/ln	0.2		
Vehi	cle LOS	A						
Copyri	opyright © 2020 University of Florida. All Rights Reserved. HCS1000 Two-Lane Version 7.8 Generated: 12/06/2020 20:02:1							

served. HCS1000 Two-Lane Version 7.8 4_Lodi Ln – East of Project Driveway (EB) – Saturday PM – B.xuf

		HCS7 Two-La	ane	Highway Re	eport	
Pro	oject Information					
Ana	alyst	КТ		Date		12/4/20
Age	ency	W-Trans		Analysis Year		2020
Juri	sdiction	County of Napa		Time Period Analy	zed	Saturday PM Baseline
Project Description Lodi Ln – East of Project Driveway (WB) – Saturday PM		Unit		United States Customary		
		Se	egn	nent 1		
Ve	hicle Inputs					
Seg	iment Type	Passing Constrained		Length, ft		5280
Lan	e Width, ft	14		Shoulder Width, f	t	0
Spe	ed Limit, mi/h	45	Access Point Density, pts/mi		0.0	
De	emand and Capacity					
Dire	ectional Demand Flow Rate, veh/h	75		Opposing Deman	d Flow Rate, veh/h	-
Pea	k Hour Factor	0.91		Total Trucks, %		3.00
Seg	ment Capacity, veh/h	1700		Demand/Capacity	r (D/C)	0.04
Int	termediate Results					
Seg	ment Vertical Class	1		Free-Flow Speed, mi/h		48.2
Spe	ed Slope Coefficient	3.17262	3.17262		fficient	0.41674
PF S	Slope Coefficient	-1.37591		PF Power Coefficient		0.72726
In P	Passing Lane Effective Length?	No		Total Segment Density, veh/mi/ln		0.3
%In	nproved % Followers	0.0		% Improved Avg Speed		0.0
Su	bsegment Data					
#	Segment Type	Length, ft	Rac	dius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	5280	-		-	48.2
Ve	hicle Results					
Ave	erage Speed, mi/h	48.2		Percent Followers,	, %	18.8
Seg	ment Travel Time, minutes	1.24		Followers Density,	followers/mi/ln	0.3
Veh	icle LOS	A	_			
Сору	right © 2020 University of Florida. All Rights	Reserved. HCS100	Two-L	ane Version 7.8		Generated: 12/06/2020 22:15:2

4_Lodi Ln – East of Project Driveway (WB) – Saturday PM – B.xuf

		HCS7 Two-I	Lane	Highway Re	eport	
Pro	ject Information					
Anal	yst	КТ		Date		12/4/20
Age	псу	W-Trans		Analysis Year		2020
Juris	diction	County of Napa		Time Period Analy	zed	Saturday PM Baseline
Proje	ect Description	Silverado Trail – North of Lodi Lane (NB) – Saturday PM		Unit		United States Customary
			Segn	nent 1		
Veł	nicle Inputs					
Segr	nent Type	Passing Constrained		Length, ft		5280
Lane	Width, ft	12		Shoulder Width, f	t	6
Spee	ed Limit, mi/h	45		Access Point Dens	sity, pts/mi	5.0
De	mand and Capacity					
Dire	ctional Demand Flow Rate, veh/h	343		Opposing Deman	d Flow Rate, veh/h	-
Peak	Hour Factor	0.91		Total Trucks, %		3.00
Segr	nent Capacity, veh/h	1700		Demand/Capacity	r (D/C)	0.20
Int	ermediate Results					
Segr	nent Vertical Class	1		Free-Flow Speed, mi/h		50.0
Spee	ed Slope Coefficient	3.26747		Speed Power Coefficient		0.41674
PF S	ope Coefficient	-1.36740		PF Power Coefficient		0.73276
In Pa	issing Lane Effective Length?	No		Total Segment De	nsity, veh/mi/ln	3.3
%lm	proved % Followers	0.0		% Improved Avg Speed		0.0
Sul	osegment Data					
#	Segment Type	Length, ft	Rad	dius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	5280	-		-	48.1
Veł	nicle Results					
Aver	age Speed, mi/h	48.1		Percent Followers,	, %	46.4
Segr	nent Travel Time, minutes	1.25		Followers Density, followers/mi/ln		3.3
Vehi	cle LOS	В				
Copyri	ght © 2020 University of Florida. All Rights	Reserved. HCS1 5_Silverado Trail – Nort	M Two-L th of Lod	ane Version 7.8 li Lane (NB) – Saturday F	PM – B.xuf	Generated: 12/06/2020 20:03:52

		HCS7 Two-L	ane	e Highway Re	eport	
Pro	oject Information					
Ana	lyst	КТ		Date		12/4/20
Age	ncy	W-Trans		Analysis Year		2020
Juris	sdiction	County of Napa		Time Period Analy	zed	Saturday PM Baseline
Project Description Silverado Trail – North of Lodi Lane (SB) – Saturday PM		Unit		United States Customary		
		S	egr	nent 1		
Vel	hicle Inputs					
Seg	ment Type	Passing Constrained		Length, ft		5280
Lane	e Width, ft	12		Shoulder Width, f	t	6
Spe	ed Limit, mi/h	45		Access Point Density, pts/mi		1.0
De	mand and Capacity					
Dire	ectional Demand Flow Rate, veh/h	314		Opposing Deman	d Flow Rate, veh/h	-
Peal	k Hour Factor	0.91		Total Trucks, %		3.00
Seg	ment Capacity, veh/h	1700		Demand/Capacity	(D/C)	0.18
Int	ermediate Results					
Seg	ment Vertical Class	1		Free-Flow Speed, mi/h		51.0
Spe	ed Slope Coefficient	3.32167	3.32167		fficient	0.41674
PF S	ilope Coefficient	-1.36197		PF Power Coefficient		0.73580
In Pa	assing Lane Effective Length?	No		Total Segment De	nsity, veh/mi/ln	2.8
%lm	nproved % Followers	0.0		% Improved Avg	Speed	0.0
Su	bsegment Data			·		
#	Segment Type	Length, ft	Rad	dius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	5280	-		-	49.2
Vel	hicle Results					
Ave	rage Speed, mi/h	49.2		Percent Followers	%	44.1
Seg	ment Travel Time, minutes	1.22		Followers Density,	followers/mi/ln	2.8
Veh	icle LOS	В				
opyr	ight © 2020 University of Florida. All Rights	Reserved. HCSTM	Two-I	Lane Version 7.8		Generated: 12/06/2020 20:04:3

served. HCSTMI Two-Lane Version 7.8 5_Silverado Trail – North of Lodi Lane (SB) – Saturday PM – B.xuf

		HCS7 Two-L	.ane	e Highway Re	eport			
Pro	ject Information							
Anal	yst	КТ		Date		12/4/20		
Ager	псу	W-Trans		Analysis Year		2020		
Juris	diction	County of Napa		Time Period Analy	zed	Saturday PM Baseline		
Project Description		Silverado Trail – Sout Lodi Lane (NB) – Satu PM	Silverado Trail – South of Lodi Lane (NB) – Saturday PM			United States Customary		
	Segment 1							
Veh	icle Inputs							
Segr	nent Type	Passing Constrained		Length, ft		5280		
Lane	Width, ft	12		Shoulder Width, ft	t	6		
Spee	d Limit, mi/h	45		Access Point Density, pts/mi		5.0		
Der	nand and Capacity							
Direc	ctional Demand Flow Rate, veh/h	364		Opposing Deman	d Flow Rate, veh/h	-		
Peak	Hour Factor	0.91		Total Trucks, %		3.00		
Segr	nent Capacity, veh/h	1700		Demand/Capacity	(D/C)	0.21		
Inte	ermediate Results							
Segn	nent Vertical Class	1		Free-Flow Speed, mi/h		50.0		
Spee	d Slope Coefficient	3.26747	3.26747		fficient	0.41674		
PF SI	ope Coefficient	-1.36740		PF Power Coefficie	ent	0.73276		
In Pa	ssing Lane Effective Length?	No		Total Segment De	nsity, veh/mi/ln	3.6		
%lm	proved % Followers	0.0		% Improved Avg S	Speed	0.0		
Sub	osegment Data							
#	Segment Type	Length, ft	Rad	idius, ft	Superelevation, %	Average Speed, mi/h		
1	Tangent	5280	-		-	48.1		
Veh	icle Results							
Aver	age Speed, mi/h	48.1		Percent Followers,	%	47.9		
Segn	nent Travel Time, minutes	1.25		Followers Density, followers/mi/ln		3.6		
Vehi	cle LOS	В						
Copyri	opyright © 2020 University of Florida. All Rights Reserved. HCS1000 Two-Lane Version 7.8 Generated: 12/06/2020 20:05:1							

eserved. HCS1100 Two-Lane Version 7.8 6_silverado Trail – South of Lodi Lane (NB) – Saturday PM – B.xuf

		HCS7 Two-La	ine	Highway Re	eport	
Pro	ject Information					
Ana	lyst	КТ		Date		12/4/20
Age	ncy	W-Trans		Analysis Year		2020
Juris	diction	County of Napa		Time Period Analy	zed	Saturday PM Baseline
Project Description Silverado Trail – South of Lodi Lane (SB) – Saturday PM		Unit		United States Customary		
		Se	egn	nent 1		
Vel	nicle Inputs					
Seg	ment Type	Passing Constrained		Length, ft		5280
Lane	e Width, ft	12		Shoulder Width, f	t	6
Spe	ed Limit, mi/h	45		Access Point Density, pts/mi		1.0
De	mand and Capacity					
Dire	ctional Demand Flow Rate, veh/h	316		Opposing Deman	d Flow Rate, veh/h	
Peak	Hour Factor	0.91		Total Trucks, %		3.00
Segi	ment Capacity, veh/h	1700		Demand/Capacity	r (D/C)	0.19
Int	ermediate Results					
Seg	ment Vertical Class	1		Free-Flow Speed, mi/h		51.0
Spee	ed Slope Coefficient	3.32167		Speed Power Coefficient		0.41674
PF S	lope Coefficient	-1.36197		PF Power Coefficient		0.73580
In Pa	assing Lane Effective Length?	No		Total Segment Density, veh/mi/ln		2.8
%lm	proved % Followers	0.0		% Improved Avg S	Speed	0.0
Sul	bsegment Data					
#	Segment Type	Length, ft	Rac	dius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	5280	-		-	49.2
Vel	nicle Results					
Ave	rage Speed, mi/h	49.2		Percent Followers,	, %	44.2
Seg	ment Travel Time, minutes	1.22		Followers Density, followers/mi/In		2.8
Vehi	cle LOS	В				
Copyr	ight © 2020 University of Florida. All Right	s Reserved. HCS TWO	Two-L	ane Version 7.8		Generated: 12/06/2020 20:06:06

6_Silverado Trail – South of Lodi Lane (SB) – Saturday PM – B.xuf

	HCS7 Two-Lane Highway Report								
Pro	ject Information								
Ana	yst	КТ	Date		12/4/20				
Age	псу	W-Trans	Analysis Year		2020				
Juris	diction	County of Napa	Time Period Analy	/zed	Friday PM Future				
Proj	ect Description	SR 29 – North of Lodi La (NB) – Friday PM	ane Unit		United States Customary				
	Segment 1								
Vel	Vehicle Inputs								
Segi	nent Type	Passing Constrained	Length, ft		5280				
Lane	Width, ft	12	Shoulder Width, f	t	6				
Spee	ed Limit, mi/h	50	Access Point Den	sity, pts/mi	4.0				
De	Demand and Capacity								
Dire	ctional Demand Flow Rate, veh/h	1015	Opposing Deman	d Flow Rate, veh/h	-				
Peak	Hour Factor	1.00	Total Trucks, %		4.00				
Segi	nent Capacity, veh/h	1700	Demand/Capacity	/ (D/C)	0.60				
Int	ermediate Results								
Segr	nent Vertical Class	1	Free-Flow Speed,	mi/h	55.9				
Spee	ed Slope Coefficient	3.58815	Speed Power Coe	fficient	0.41674				
PF S	lope Coefficient	-1.32983	PF Power Coeffici	ent	0.75000				
In Pa	issing Lane Effective Length?	No	Total Segment De	ensity, veh/mi/ln	14.3				
%lm	proved % Followers	0.0	% Improved Avg	Speed	0.0				
Sul	osegment Data								
#	Segment Type	Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h				
1	Tangent	5280	-	-	52.4				
Vel	nicle Results								
Aver	age Speed, mi/h	52.4	Percent Followers	, %	73.9				
Segr	nent Travel Time, minutes	1.14	Followers Density	, followers/mi/ln	14.3				
Vehi	cle LOS	D							
Copyr	pyright © 2020 University of Florida. All Rights Reserved. HCS1000 Two-Lane Version 7.8 Generated: 12/06/2020 20:08:03								

1_SR 29 – North of Lodi Lane (NB) – Friday PM – F.xuf

	HCS7 Two-Lane Highway Report								
Pro	ject Information								
Anal	/st	KT Date			12/4/2020				
Ager	ю	W-Trans		Analysis Year		2020			
Juris	diction	County of Napa		Time Period Analy	/zed	Friday PM Future			
Proje	ct Description	SR 29 – North of Lodi (SB) – Friday PM	Lane	Unit		United States Customary			
		S	egn	nent 1					
Veh	icle Inputs								
Segn	nent Type	Passing Constrained		Length, ft		5280			
Lane	Width, ft	12		Shoulder Width, f	t	6			
Spee	d Limit, mi/h	50		Access Point Density, pts/mi		10.0			
Der	nand and Capacity								
Directional Demand Flow Rate, veh/h		932		Opposing Deman	d Flow Rate, veh/h	-			
Peak	Hour Factor	1.00		Total Trucks, %		4.00			
Segn	nent Capacity, veh/h	1700		Demand/Capacity	r (D/C)	0.55			
Inte	ermediate Results								
Segn	nent Vertical Class	1		Free-Flow Speed, mi/h		54.4			
Spee	d Slope Coefficient	3.50685		Speed Power Coefficient		0.41674			
PF SI	ope Coefficient	-1.34047		PF Power Coefficient		0.74585			
In Pa	ssing Lane Effective Length?	No		Total Segment Density, veh/mi/ln		13.1			
%lm	proved % Followers	0.0		% Improved Avg Speed		0.0			
Sub	segment Data								
#	Segment Type	Length, ft	Rad	lius, ft	Superelevation, %	Average Speed, mi/h			
1	Tangent	5280	-		-	51.1			
Veh	icle Results								
Aver	age Speed, mi/h	51.1		Percent Followers	, %	72.0			
Segn	nent Travel Time, minutes	1.17		Followers Density	, followers/mi/ln	13.1			
Vehi	le LOS	D							
Copyri	ght © 2020 University of Florida. All Rights	Reserved. HCSTM 1_SR 29 – North of	Two-L Lodi La	ane Version 7.8 ane (SB) – Friday PM – F	F.xuf	Generated: 12/06/2020 20:08:5			

HCS7 Two-Lane Highway Report							
Pro	ject Information						
Anal	yst	КТ		Date		12/4/2020	
Ager	ncy	W-Trans	W-Trans			2020	
Juris	diction	County of Napa		Time Period Analy	/zed	Friday PM Future	
Proje	ect Description	SR 29 – South of Lod (NB) – Friday PM	li Lane	Unit		United States Customary	
		S	Segn	nent 1			
Veł	icle Inputs						
Segr	nent Type	Passing Constrained		Length, ft		5280	
Lane	Width, ft	12		Shoulder Width, f	t	6	
Spee	d Limit, mi/h	50		Access Point Den	sity, pts/mi	4.0	
Dei	nand and Capacity						
Dire	tional Demand Flow Rate, veh/h	1018		Opposing Deman	d Flow Rate, veh/h	-	
Peak	Hour Factor	1.00		Total Trucks, %		4.00	
Segr	nent Capacity, veh/h	1700		Demand/Capacity	(D/C)	0.60	
Inte	ermediate Results						
Segr	nent Vertical Class	1		Free-Flow Speed, mi/h		55.9	
Spee	d Slope Coefficient	3.58815		Speed Power Coefficient		0.41674	
PF S	ope Coefficient	-1.32983		PF Power Coefficient		0.75000	
In Pa	ssing Lane Effective Length?	No		Total Segment Density, veh/mi/ln		14.4	
%lm	proved % Followers	0.0		% Improved Avg Speed		0.0	
Sub	segment Data						
#	Segment Type	Length, ft	Rad	lius, ft	Superelevation, %	Average Speed, mi/h	
1	Tangent	5280	-		-	52.4	
Veł	icle Results						
Aver	age Speed, mi/h	52.4		Percent Followers, %		74.0	
Segr	nent Travel Time, minutes	1.14		Followers Density	, followers/mi/ln	14.4	
Vehi	tle LOS	D					
Copyri	ght $©$ 2020 University of Florida. All Rights	Reserved. HCSW 2_SR 29 – South o	M Two-L f Lodi La	ane Version 7.8 ane (NB) – Friday PM –	F.xuf	Generated: 12/06/2020 20:10:1	

	HCS7 Two-	Lane	Highway R	eport	
Project Information					
Analyst	KT		Date		12/4/2020
Agency	W-Trans	W-Trans			2020
Jurisdiction	County of Napa		Time Period Analy	yzed	Friday PM Future
Project Description	SR 29 – South of Lo (SB) – Friday PM	di Lane	Unit		United States Customary
		Segn	nent 1		
Vehicle Inputs					
Segment Type	Passing Constrained	ł	Length, ft		5280
Lane Width, ft	12		Shoulder Width, f	īt	6
Speed Limit, mi/h	50	50		sity, pts/mi	10.0
Demand and Capacity					
Directional Demand Flow Rate, veh/h	1002	1002		nd Flow Rate, veh/h	
Peak Hour Factor	1.00		Total Trucks, %		4.00
Segment Capacity, veh/h	1700		Demand/Capacity	/ (D/C)	0.59
Intermediate Results					
Segment Vertical Class	1			mi/h	54.4
Speed Slope Coefficient	3.50685	3.50685		fficient	0.41674
PF Slope Coefficient	-1.34047		PF Power Coefficient		0.74585
In Passing Lane Effective Length?	No		Total Segment Density, veh/mi/ln		14.5
%Improved % Followers	0.0		% Improved Avg Speed		0.0
Subsegment Data					
# Segment Type	Length, ft	Rac	dius, ft	Superelevation, %	Average Speed, mi/h
1 Tangent	5280	-		-	51.0
Vehicle Results					
Average Speed, mi/h	51.0		Percent Followers	i, %	73.9
Segment Travel Time, minutes	1.18	Followers Der		, followers/mi/In	14.5
Vehicle LOS	D				
opyright © 2020 University of Florida. All Righ	ts Reserved. HCS 2_SR 29 – South	୩୦୦ Two-L of Lodi L	ane Version 7.8 ane (SB) – Friday PM –	F.xuf	Generated: 12/06/2020 21:02:3

		HCS7 Two-La	ane	Highway Re	eport	
Pro	ject Information					
Anal	yst	КТ		Date		12/4/2020
Age	ncy	W-Trans		Analysis Year		2020
Juris	diction	County of Napa		Time Period Analy	zed	Friday PM Future
Proje	ect Description	Lodi Ln – West of Proj Driveway (EB) – Friday	ect PM	Unit		United States Customary
		S	egn	nent 1		
Veł	nicle Inputs					
Segr	nent Type	Passing Constrained		Length, ft		5280
Lane	Width, ft	14		Shoulder Width, f	t	0
Spee	ed Limit, mi/h	45		Access Point Density, pts/mi		11.0
De	mand and Capacity					
Directional Demand Flow Rate, veh/h		68		Opposing Deman	d Flow Rate, veh/h	-
Peak	Hour Factor	1.00		Total Trucks, %		4.00
Segr	ment Capacity, veh/h	1700		Demand/Capacity	r (D/C)	0.04
Int	ermediate Results					
Segr	nent Vertical Class	1	Free-Flow Speed, mi/h		45.4	
Spee	ed Slope Coefficient	3.02176		Speed Power Coefficient		0.41674
PF S	lope Coefficient	-1.38649		PF Power Coefficient		0.71813
In Pa	assing Lane Effective Length?	No		Total Segment Density, veh/mi/ln		0.3
%lm	proved % Followers	0.0		% Improved Avg Speed		0.0
Sul	osegment Data					
#	Segment Type	Length, ft	Rac	dius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	5280	-		-	45.4
Veł	nicle Results					
Aver	age Speed, mi/h	45.4		Percent Followers,	, %	18.2
Segr	ment Travel Time, minutes	1.32		Followers Density,	, followers/mi/ln	0.3
Vehi	cle LOS	А				
Copyri	ght © 2020 University of Florida. All Rights	Reserved. HCS100	Two-L	ane Version 7.8		Generated: 12/06/2020 21:04:06

3_Lodi Ln – West of Project Driveway (EB) – Friday PM – F.xuf

		HCS7 Iwo-La	ne	Highway Re	eport	
Pro	ject Information					
Anal	yst	КТ		Date		12/4/2020
Age	псу	W-Trans	W-Trans			2020
Juris	diction	County of Napa		Time Period Analy	zed	Friday PM Future
Proje	ect Description	Lodi Ln – West of Proje Driveway (WB) – Friday	ect PM	Unit		United States Customary
		Se	egm	ient 1		
Veł	nicle Inputs					
Segr	nent Type	Passing Constrained		Length, ft		5280
Lane	Width, ft	14		Shoulder Width, f	t	0
Spee	ed Limit, mi/h	45		Access Point Dens	iity, pts/mi	10.0
De	mand and Capacity					
Dire	ctional Demand Flow Rate, veh/h	w Rate, veh/h 135		Opposing Deman	d Flow Rate, veh/h	-
Peak	Hour Factor	1.00		Total Trucks, %		4.00
Segr	nent Capacity, veh/h	1700		Demand/Capacity	r (D/C)	0.08
Int	ermediate Results					
Segr	nent Vertical Class	1		Free-Flow Speed, mi/h		45.7
Spee	ed Slope Coefficient	3.03531		Speed Power Coefficient		0.41674
PF S	lope Coefficient	-1.38568		PF Power Coefficient		0.71899
In Pa	assing Lane Effective Length?	No		Total Segment Density, veh/mi/ln		0.8
%lm	proved % Followers	0.0		% Improved Avg Speed		0.0
Sul	osegment Data					
#	Segment Type	Length, ft	Radi	ius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	5280	-		-	44.9
Veł	nicle Results					
Aver	age Speed, mi/h	44.9		Percent Followers,	, %	28.0
Segr	nent Travel Time, minutes	1.34		Followers Density,	followers/mi/In	0.8
Vehi	cle LOS	A				
Copyri	ght © 2020 University of Florida. All Rights	Reserved. HCS100 T	Two-La	ne Version 7.8		Generated: 12/06/2020 21:04:53

3_Lodi Ln – West of Project Driveway (WB) – Friday PM – F.xuf

		HCS7 Two-L	.ane	Highway Re	eport	
Pro	oject Information					
Ana	lyst	КТ		Date		12/4/2020
Age	ncy	W-Trans		Analysis Year		2020
Juris	diction	County of Napa		Time Period Analy	zed	Friday PM Future
Proj	ect Description	Lodi Ln – East of Proj Driveway (EB) – Frida	ect y PM	Unit		United States Customary
		9	Segn	nent 1		
Vel	hicle Inputs					
Seg	ment Type	Passing Constrained		Length, ft		5280
Lane	e Width, ft	14		Shoulder Width, f	t	0
Spe	ed Limit, mi/h	45		Access Point Dens	sity, pts/mi	11.0
De	mand and Capacity					
Directional Demand Flow Rate, veh/h		86		Opposing Deman	d Flow Rate, veh/h	-
Peal	K Hour Factor	1.00		Total Trucks, %		2.00
Seg	ment Capacity, veh/h	1700		Demand/Capacity	r (D/C)	0.05
Int	ermediate Results					
Seg	ment Vertical Class	1		Free-Flow Speed, mi/h		45.5
Spe	ed Slope Coefficient	3.02537		Speed Power Coefficient		0.41674
PF S	lope Coefficient	-1.38653		PF Power Coefficient		0.71808
In Pa	assing Lane Effective Length?	No		Total Segment Density, veh/mi/ln		0.4
%lm	proved % Followers	0.0		% Improved Avg S	Speed	0.0
Sul	bsegment Data					
#	Segment Type	Length, ft	Rac	dius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	5280	-		-	45.5
Vel	hicle Results					
Ave	rage Speed, mi/h	45.5		Percent Followers,	, %	21.2
Seg	ment Travel Time, minutes	1.32		Followers Density,	, followers/mi/ln	0.4
Vehi	icle LOS	A	A			
Copyr	ight © 2020 University of Florida. All Rights	Reserved. HCST	a Two-L	ane Version 7.8		Generated: 12/06/2020 21:05:44

4_Lodi Ln – East of Project Driveway (EB) – Friday PM – F.xuf

	HCS7 Two-Lane Highway Report							
Pro	ject Information							
Anal	yst	КТ		Date		12/4/20		
Ager	псу	W-Trans		Analysis Year		2020		
luris	diction	County of Napa		Time Period Analy	zed	Friday PM Future		
Proje	ect Description	Lodi Ln – East of Projec Driveway (WB) – Friday	t PM	Unit		United States Customary		
		Se	gm	ent 1				
Veh	icle Inputs							
Segn	nent Type	Passing Constrained		Length, ft		5280		
ane	Width, ft	14		Shoulder Width, ft	t	0		
Spee	d Limit, mi/h	45		Access Point Dens	ity, pts/mi	0.0		
Der	nand and Capacity					-		
Direc	irectional Demand Flow Rate, veh/h 125		Opposing Deman	d Flow Rate, veh/h	-			
Peak	Hour Factor	1.00		Total Trucks, %		2.00		
Segn	nent Capacity, veh/h	1700		Demand/Capacity	(D/C)	0.07		
Inte	ermediate Results							
Segn	nent Vertical Class	1		Free-Flow Speed, mi/h		48.2		
Spee	d Slope Coefficient	3.17442	3.17442		fficient	0.41674		
PF SI	ope Coefficient	-1.37589		PF Power Coefficient		0.72723		
n Pa	ssing Lane Effective Length?	No		Total Segment De	nsity, veh/mi/ln	0.7		
%lm	proved % Followers	0.0		% Improved Avg Speed		0.0		
Sub	osegment Data							
ŧ	Segment Type	Length, ft	Radi	ius, ft	Superelevation, %	Average Speed, mi/h		
1	Tangent	5280	-		-	47.6		
Veh	icle Results							
Aver	age Speed, mi/h	47.6		Percent Followers,	%	26.2		
Segn	nent Travel Time, minutes	1.26		Followers Density,	followers/mi/In	0.7		
Vehi	cle LOS	A						
opyri	ght © 2020 University of Florida. All Rights R	eserved. HCSTNA T	wo-La	ine Version 7.8		Generated: 12/06/2020 21:08:37		

4_Lodi Ln – East of Project Driveway (WB) – Friday PM – F.xuf

		HCS7 Two-La	ane	Highway Re	eport	
Pro	ject Information					
Anal	yst	КТ		Date		12/4/20
Age	ncy	W-Trans		Analysis Year		2020
Juris	diction	County of Napa		Time Period Analy	zed	Friday PM Future
Proje	ect Description	Silverado Trail – North Lodi Lane (NB) – Friday	of y PM	Unit		United States Customary
		Se	egm	nent 1		
Veł	nicle Inputs					
Segr	nent Type	Passing Constrained		Length, ft		5280
Lane	Width, ft	12		Shoulder Width, f	t	6
Spee	ed Limit, mi/h	45	45		sity, pts/mi	5.0
De	mand and Capacity					
Directional Demand Flow Rate, veh/h		445		Opposing Deman	d Flow Rate, veh/h	-
Peak	Hour Factor	1.00		Total Trucks, %		2.00
Segr	ment Capacity, veh/h	1700		Demand/Capacity	r (D/C)	0.26
Int	ermediate Results					
Segr	nent Vertical Class	1		Free-Flow Speed, mi/h		50.0
Spee	ed Slope Coefficient	3.26927		Speed Power Coefficient		0.41674
PF S	lope Coefficient	-1.36736		PF Power Coefficient		0.73272
In Pa	assing Lane Effective Length?	No		Total Segment Density, veh/mi/ln		4.9
%lm	proved % Followers	0.0		% Improved Avg Speed		0.0
Sul	osegment Data					
#	Segment Type	Length, ft	Rad	ius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	5280	-		-	47.9
Veł	nicle Results	·				·
Aver	age Speed, mi/h	47.9		Percent Followers,	, %	53.0
Segr	ment Travel Time, minutes	1.25		Followers Density,	, followers/mi/ln	4.9
Vehi	cle LOS	В				
Copyri	ght © 2020 University of Florida. All Rights	Reserved. HCS100	Two-La	ane Version 7.8		Generated: 12/06/2020 21:10:37

5_Silverado Trail – North of Lodi Lane (NB) – Friday PM – F.xuf

		HCS7 Two-La	ne	Highway Re	eport	
Pro	ject Information					
Anal	yst	КТ		Date		12/4/20
Ager	псу	W-Trans		Analysis Year		2020
Juris	diction	County of Napa		Time Period Analy	zed	Friday PM Future
Proje	ect Description	Silverado Trail – North c Lodi Lane (SB) – Friday	of PM	Unit		United States Customary
		Se	gm	ent 1		-
Veł	nicle Inputs					
Segr	nent Type	Passing Constrained		Length, ft		5280
Lane	Width, ft	12		Shoulder Width, fr	t	6
Spee	d Limit, mi/h	45		Access Point Dens	iity, pts/mi	1.0
Dei	nand and Capacity					
Directional Demand Flow Rate, veh/h 418		Opposing Deman	d Flow Rate, veh/h	-		
Peak	Hour Factor	1.00		Total Trucks, %		2.00
Segr	nent Capacity, veh/h	1700		Demand/Capacity	r (D/C)	0.25
Inte	ermediate Results					
Segr	nent Vertical Class	1		Free-Flow Speed, mi/h		51.0
Spee	d Slope Coefficient	3.32347		Speed Power Coefficient		0.41674
PF S	ope Coefficient	-1.36191		PF Power Coefficient		0.73576
In Pa	ssing Lane Effective Length?	No		Total Segment De	nsity, veh/mi/ln	4.4
%lm	proved % Followers	0.0		% Improved Avg S	Speed	0.0
Sul	osegment Data					
#	Segment Type	Length, ft	Radi	us, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	5280	-		-	48.9
Veł	nicle Results				<u>.</u>	·
Aver	age Speed, mi/h	48.9		Percent Followers,	, %	51.2
Segr	nent Travel Time, minutes	1.23		Followers Density,	followers/mi/ln	4.4
Vehi	cle LOS	В				
Copyri	ght © 2020 University of Florida. All Rights	Reserved. HCSTMI T	wo-La	ne Version 7.8		Generated: 12/06/2020 21:11:13

5_Silverado Trail – North of Lodi Lane (SB) – Friday PM – F.xuf

		HCS7 Two-La	ne	Highway Re	eport	
Pro	ject Information					
Ana	yst	КТ		Date		12/4/20
Age	ncy	W-Trans		Analysis Year		2020
Juris	diction	County of Napa		Time Period Analy	zed	Friday PM Future
Proj	ect Description	Silverado Trail – South Lodi Lane (NB) – Friday	of y PM	Unit		United States Customary
		Se	egn	nent 1		
Vel	nicle Inputs					
Segi	nent Type	Passing Constrained		Length, ft		5280
Lane	Width, ft	12		Shoulder Width, ft	t	6
Spee	ed Limit, mi/h	45		Access Point Dens	ity, pts/mi	5.0
De	mand and Capacity					
Directional Demand Flow Rate, veh/h		480		Opposing Deman	d Flow Rate, veh/h	-
Peak	Hour Factor	1.00		Total Trucks, %		2.00
Segi	ment Capacity, veh/h	1700		Demand/Capacity	(D/C)	0.28
Int	ermediate Results					
Segi	nent Vertical Class	1		Free-Flow Speed, mi/h		50.0
Spee	ed Slope Coefficient	3.26927		Speed Power Coefficient		0.41674
PF S	lope Coefficient	-1.36736		PF Power Coefficient		0.73272
In Pa	assing Lane Effective Length?	No		Total Segment Density, veh/mi/ln		5.5
%lm	proved % Followers	0.0		% Improved Avg Speed		0.0
Sul	osegment Data					
#	Segment Type	Length, ft	Rad	lius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	5280	-		-	47.8
Vel	nicle Results					
Aver	age Speed, mi/h	47.8		Percent Followers,	%	55.0
Segr	nent Travel Time, minutes	1.26		Followers Density,	followers/mi/ln	5.5
Vehi	cle LOS	с				
Copyr	ght © 2020 University of Florida. All Rights	Reserved. HCS TAX	Two-L	ane Version 7.8		Generated: 12/06/2020 22:25:43

6_Silverado Trail – South of Lodi Lane (NB) – Friday PM – F.xuf

	HCS7 Two-Lane Highway Report							
Pro	ject Information							
Anal	yst	кт	Date		12/4/20			
Ager	ncy	W-Trans	Analysis Year		2020			
uris	diction	County of Napa	Time Period Anal	yzed	Friday PM Future			
Proje	ect Description	Silverado Trail – South o Lodi Lane (NB) – Friday	f Unit PM		United States Customary			
		Se	gment 1					
Veł	icle Inputs							
Segr	nent Type	Passing Constrained	Length, ft		5280			
ane	Width, ft	12	Shoulder Width, f	it	6			
Spee	d Limit, mi/h	45	Access Point Den	sity, pts/mi	5.0			
Dei	mand and Capacity							
Dire	tional Demand Flow Rate, veh/h	414	Opposing Demand Flow Rate, veh/h		-			
Peak	Hour Factor	1.00	Total Trucks, %		2.00			
Segr	nent Capacity, veh/h	1700	Demand/Capacity	/ (D/C)	0.24			
nte	ermediate Results							
Segr	nent Vertical Class	1	Free-Flow Speed,	mi/h	50.0			
Spee	d Slope Coefficient	3.26927	Speed Power Coe	fficient	0.41674			
PF SI	ope Coefficient	-1.36736	PF Power Coeffici	ent	0.73272			
n Pa	ssing Lane Effective Length?	No	Total Segment De	ensity, veh/mi/ln	4.4			
%lm	proved % Followers	0.0	% Improved Avg	Speed	0.0			
Suk	osegment Data							
ŧ	Segment Type	Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h			
1	Tangent	5280	-	-	48.0			
Veł	icle Results							
Aver	age Speed, mi/h	48.0	Percent Followers	i, %	51.2			
Segr	nent Travel Time, minutes	1.25	Followers Density	, followers/mi/ln	4.4			
/ehi	tle LOS	В						
pyri	ght © 2020 University of Florida. All Rights F	Reserved. HCS1000 Tv	vo-Lane Version 7.8		Generated: 12/06/2020 21:12:41			

6_Silverado Trail – South of Lodi Lane (NB) – Friday PM – F.xuf

		HCS7 Two-Lai	ne Highwa	ay Re	eport	
Pro	ject Information					
Anal	yst	КТ	Date			12/4/20
Age	псу	W-Trans	Analysis Ye	ar		2020
Juris	diction	County of Napa	Time Perio	d Analy	zed	Saturday PM Future
Proje	ect Description	SR 29 – North of Lodi La (NB) – Saturday PM	ane Unit			United States Customary
		Se	gment 1			
Veł	icle Inputs					
Segr	nent Type	Passing Constrained	Length, ft			5280
Lane	Width, ft	12	Shoulder V	Vidth, ft	:	6
Spee	d Limit, mi/h	50	Access Poi	nt Dens	ity, pts/mi	4.0
De	nand and Capacity					
Directional Demand Flow Rate, veh/h 1016		Opposing	Demano	d Flow Rate, veh/h	-	
Peak	Hour Factor	1.00	Total Truck	Total Trucks, %		2.00
Segr	nent Capacity, veh/h	1700	Demand/C	apacity	(D/C)	0.60
Int	ermediate Results	•	÷			·
Segr	nent Vertical Class	1	Free-Flow	Free-Flow Speed, mi/h		55.9
Spee	d Slope Coefficient	3.59176	Speed Pow	Speed Power Coefficient		0.41674
PF S	ope Coefficient	-1.32959	PF Power C	PF Power Coefficient		0.74990
In Pa	ssing Lane Effective Length?	No	Total Segm	Total Segment Density, veh/mi/ln		14.3
%lm	proved % Followers	0.0	% Improve	d Avg S	peed	0.0
Sul	osegment Data					
#	Segment Type	Length, ft	Radius, ft		Superelevation, %	Average Speed, mi/h
1	Tangent	5280	-		-	52.5
Veł	icle Results					
Aver	age Speed, mi/h	52.5	Percent Fo	llowers,	%	74.0
Segr	nent Travel Time, minutes	1.14	Followers [Followers Density, followers/mi/ln		14.3
Vehi	cle LOS	D				
Copyri	ght © 2020 University of Florida. All Rights	Reserved. HCS100 Tv	wo-Lane Version 7.8	3		Generated: 12/06/2020 21:14:03

1_SR 29 – North of Lodi Lane (NB) – Saturday PM – F.xuf

	HCS7 Two-La	ane	Highway Re	eport	
Project Information					
Analyst	КТ		Date		12/4/2020
Agency	W-Trans		Analysis Year		2020
Jurisdiction	County of Napa		Time Period Analy	/zed	Saturday PM Future
Project Description	SR 29 – North of Lodi (SB) – Saturday PM	SR 29 – North of Lodi Lane (SB) – Saturday PM			United States Customary
	S	egn	nent 1		
Vehicle Inputs					
Segment Type	Passing Constrained		Length, ft		5280
Lane Width, ft	12		Shoulder Width, f	t	6
Speed Limit, mi/h	50		Access Point Dens	sity, pts/mi	10.0
Demand and Capacity			·		
Directional Demand Flow Rate, veh/h 978		Opposing Deman	d Flow Rate, veh/h	-	
Peak Hour Factor	1.00		Total Trucks, %		2.00
Segment Capacity, veh/h	1700		Demand/Capacity	r (D/C)	0.58
Intermediate Results			·		
Segment Vertical Class	1		Free-Flow Speed, mi/h		54.4
Speed Slope Coefficient	3.51046		Speed Power Coefficient		0.41674
PF Slope Coefficient	-1.34026		PF Power Coefficient		0.74575
In Passing Lane Effective Length?	No		Total Segment Density, veh/mi/ln		14.0
%Improved % Followers	0.0		% Improved Avg	Speed	0.0
Subsegment Data			·		
# Segment Type	Length, ft	Rad	lius, ft	Superelevation, %	Average Speed, mi/h
1 Tangent	5280	-		-	51.1
Vehicle Results					
Average Speed, mi/h	51.1		Percent Followers	, %	73.2
Segment Travel Time, minutes	1.17		Followers Density	, followers/mi/ln	14.0
Vehicle LOS	D				
Copyright © 2020 University of Florida. All Right	s Reserved. HCS 100	1 Two-La	ane Version 7.8		Generated: 12/06/2020 21:14:5

1_SR 29 - North of Lodi Lane (SB) - Saturday PM - F.xuf

		HCS7 Two-Lar	ne Highway R	eport	
Pro	ject Information				
Anal	yst	КТ	Date	Date	
Age	ncy	W-Trans	Analysis Year		2020
Juris	diction	County of Napa	Time Period Anal	yzed	Saturday PM Future
Proje	ect Description	SR 29 – South of Lodi La (NB) – Saturday PM	ane Unit		United States Customary
		Se	gment 1		
Veł	nicle Inputs				
Segr	nent Type	Passing Constrained	Length, ft		5280
Lane	Width, ft	12	Shoulder Width,	ft	6
Spee	ed Limit, mi/h	50	Access Point Den	sity, pts/mi	4.0
De	mand and Capacity				
Dire	ctional Demand Flow Rate, veh/h	1026	Opposing Demar	nd Flow Rate, veh/h	-
Peak	Hour Factor	1.00	Total Trucks, %		2.00
Segr	ment Capacity, veh/h	1700	Demand/Capacity	y (D/C)	0.60
Int	ermediate Results				
Segr	nent Vertical Class	1	Free-Flow Speed, mi/h		55.9
Spee	ed Slope Coefficient	3.59176	Speed Power Coe	efficient	0.41674
PF S	lope Coefficient	-1.32959	PF Power Coeffici	ent	0.74990
In Pa	assing Lane Effective Length?	No	Total Segment De	ensity, veh/mi/ln	14.5
%lm	proved % Followers	0.0	% Improved Avg	Speed	0.0
Sul	osegment Data				
#	Segment Type	Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	5280	-	-	52.5
Veł	nicle Results				
Aver	age Speed, mi/h	52.5	Percent Followers	5, %	74.2
Segr	nent Travel Time, minutes	1.14	Followers Density	, followers/mi/ln	14.5
Vehi	cle LOS	D			
Copyri	ght © 2020 University of Florida. All Rights	Reserved. HCS100 Tv	wo-Lane Version 7.8		Generated: 12/06/2020 22:31:48

2_SR 29 – South of Lodi Lane (NB) – Saturday PM – F.xuf

		0-Lane	підпіvay к	ероп	
Project Information					
Analyst	КТ		Date		12/4/2020
Agency	W-Trans		Analysis Year		2020
Jurisdiction	County of Napa		Time Period Analy	yzed	Saturday PM Future
Project Description	SR 29 – South o (SB) – Saturday	f Lodi Lane PM	Unit		United States Customary
		Segn	nent 1		
Vehicle Inputs					
Segment Type	Passing Constra	ined	Length, ft		5280
Lane Width, ft	12		Shoulder Width, f	ft	6
Speed Limit, mi/h	50 Access Point Density, pts/mi			10.0	
Demand and Capacity					
Directional Demand Flow Rate, veh/h 991		Opposing Deman	nd Flow Rate, veh/h	-	
Peak Hour Factor	1.00		Total Trucks, %		2.00
Segment Capacity, veh/h	1700		Demand/Capacity	y (D/C)	0.58
Intermediate Results					
Segment Vertical Class	1		Free-Flow Speed,	mi/h	54.4
Speed Slope Coefficient	3.51046		Speed Power Coefficient		0.41674
PF Slope Coefficient	-1.34026		PF Power Coefficient		0.74575
In Passing Lane Effective Length?	No		Total Segment De	ensity, veh/mi/ln	14.3
%Improved % Followers	0.0		% Improved Avg Speed		0.0
Subsegment Data					
# Segment Type	Length, ft	Rad	lius, ft	Superelevation, %	Average Speed, mi/h
1 Tangent	5280	-		-	51.1
Vehicle Results					
Average Speed, mi/h	51.1		Percent Followers	5, %	73.6
Seament Travel Time, minutes 1.17			Followers Density, followers/mi/ln		14.3
Segment naver nine, minutes					-

		HCS7 Two-La	ane	Highway Re	eport		
Pro	ject Information						
Anal	yst	KT		Date		12/4/2020	
Ager	псу	W-Trans		Analysis Year		2020	
Juris	diction	County of Napa		Time Period Analy	zed	Saturday PM Future	
Proje	ect Description	Lodi Ln – West of Proj Driveway (EB) – Saturo PM	ject day	Unit		United States Customary	
		S	egn	nent 1			
Veł	nicle Inputs						
Segr	nent Type	Passing Constrained		Length, ft		5280	
Lane	Width, ft	14		Shoulder Width, f	t	0	
Spee	ed Limit, mi/h	45		Access Point Density, pts/mi		11.0	
Dei	mand and Capacity						
Dire	ctional Demand Flow Rate, veh/h	54		Opposing Demand Flow Rate, veh/h		-	
Peak	Hour Factor	1.00		Total Trucks, %		2.00	
Segr	nent Capacity, veh/h	1700		Demand/Capacity	(D/C)	0.03	
Inte	ermediate Results						
Segr	nent Vertical Class	1		Free-Flow Speed,	mi/h	45.5	
Spee	ed Slope Coefficient	3.02537		Speed Power Coefficient		0.41674	
PF S	lope Coefficient	-1.38653	-1.38653		ent	0.71808	
In Pa	ssing Lane Effective Length?	No		Total Segment Density, veh/mi/ln		0.2	
%lm	proved % Followers	0.0		% Improved Avg Speed		0.0	
Sub	osegment Data						
#	Segment Type	Length, ft	Rac	dius, ft	Superelevation, %	Average Speed, mi/h	
1	Tangent	5280	-		-	45.5	
Veł	nicle Results						
Aver	Average Speed, mi/h 45.5			Percent Followers, %		15.7	
Segr	nent Travel Time, minutes	1.32		Followers Density,	followers/mi/ln	0.2	
Vehi	cle LOS	A					
Copyri	Copyright © 2020 University of Florida. All Rights Reserved. HCS1000 Two-Lane Version 7.8 Generated: 12/06/2020 21:16:5						

eserved. HCS1000 Two-Lane Version 7.8 3_Lodi Ln – West of Project Driveway (EB) – Saturday PM – F.xuf

		HCS7 Two-L	ane	e Highway Re	eport	
Pro	ject Information					
Anal	yst	KT		Date		12/4/2020
Age	ncy	W-Trans		Analysis Year		2020
Juris	diction	County of Napa		Time Period Analy	zed	Saturday PM Future
Proje	ect Description	Lodi Ln – West of Pro Driveway (WB) – Satu PM	oject urday	Unit		United States Customary
		9	Segr	nent 1		
Veł	nicle Inputs					
Segr	ment Type	Passing Constrained		Length, ft		5280
Lane	e Width, ft	14		Shoulder Width, f	t	0
Spee	ed Limit, mi/h	45	45		iity, pts/mi	10.0
Dei	mand and Capacity					
Dire	ctional Demand Flow Rate, veh/h	57	57		d Flow Rate, veh/h	-
Peak	Hour Factor	1.00		Total Trucks, %		2.00
Segr	ment Capacity, veh/h	1700		Demand/Capacity	r (D/C)	0.03
Inte	ermediate Results					
Segr	ment Vertical Class	1		Free-Flow Speed,	mi/h	45.7
Spee	ed Slope Coefficient	3.03892		Speed Power Coefficient		0.41674
PF S	lope Coefficient	-1.38571		PF Power Coefficient		0.71894
In Pa	assing Lane Effective Length?	No		Total Segment Density, veh/mi/ln		0.2
%lm	proved % Followers	0.0		% Improved Avg Speed		0.0
Sub	osegment Data					
#	Segment Type	Length, ft	Rad	dius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	5280	-		-	45.7
Veł	nicle Results					
Aver	age Speed, mi/h	45.7		Percent Followers, %		16.2
Segr	ment Travel Time, minutes	1.31		Followers Density, followers/mi/In		0.2
Vehi	cle LOS	A				
Copyri	ight © 2020 University of Florida. All Right	s Reserved. HCST	M Two-I	Lane Version 7.8		Generated: 12/06/2020 21:17:34

3_Lodi Ln - West of Project Driveway (WB) - Saturday PM - F.xuf

		HCS7 Two-La	ane	Highway Re	eport					
Pro	ject Information									
Anal	yst	КТ		Date		12/4/2020				
Ager	псу	W-Trans		Analysis Year		2020				
Juris	diction	County of Napa		Time Period Analy	zed	Saturday PM Future				
Proje	ect Description	Lodi Ln – East of Proje Driveway (EB) – Saturd PM	ect day	Unit		United States Customary				
	Segment 1									
Veł	nicle Inputs									
Segr	nent Type	Passing Constrained		Length, ft		5280				
Lane	Width, ft	14		Shoulder Width, ft	t	0				
Spee	ed Limit, mi/h	45		Access Point Density, pts/mi		0.0				
Dei	mand and Capacity									
Dire	ctional Demand Flow Rate, veh/h	51		Opposing Demand Flow Rate, veh/h		-				
Peak	Hour Factor	1.00		Total Trucks, %		3.00				
Segr	nent Capacity, veh/h	1700		Demand/Capacity	(D/C)	0.03				
Inte	ermediate Results									
Segr	nent Vertical Class	1		Free-Flow Speed,	mi/h	48.2				
Spee	ed Slope Coefficient	3.17262		Speed Power Coefficient		0.41674				
PF S	lope Coefficient	-1.37591		PF Power Coefficient		0.72726				
In Pa	issing Lane Effective Length?	No		Total Segment Density, veh/mi/ln		0.2				
%lm	proved % Followers	0.0		% Improved Avg Speed		0.0				
Sub	osegment Data									
#	Segment Type	Length, ft	Rad	lius, ft	Superelevation, %	Average Speed, mi/h				
1	Tangent	5280	-		-	48.2				
Veł	nicle Results									
Aver	Average Speed, mi/h 48.2			Percent Followers, %		14.6				
Segr	nent Travel Time, minutes	1.24		Followers Density,	followers/mi/ln	0.2				
Vehi	cle LOS	A								
Copyri	opyright © 2020 University of Florida. All Rights Reserved. HCS 1000 Two-Lane Version 7.8 Generated: 12/06/2020 21:18:2									

served. HCS1000 Two-Lane Version 7.8 4_Lodi Ln – East of Project Driveway (EB) – Saturday PM – F.xuf

		HCS/ Iwo-L	ane	Highway Re	eport	
Project Informatio	n					
Analyst		кт		Date		12/4/20
Agency		W-Trans		Analysis Year		2020
Jurisdiction		County of Napa		Time Period Analy	zed	Saturday PM Future
Project Description		Lodi Ln – East of Pro Driveway (WB) – Sati PM	ject urday	Unit		United States Customary
		9	Segn	nent 1		
Vehicle Inputs						
Segment Type		Passing Constrained		Length, ft		5280
Lane Width, ft		14		Shoulder Width, f	t	0
Speed Limit, mi/h		45		Access Point Dens	ity, pts/mi	0.0
Demand and Capa	city					
Directional Demand Flow	Rate, veh/h	67		Opposing Deman	d Flow Rate, veh/h	-
Peak Hour Factor		1.00		Total Trucks, %		3.00
Segment Capacity, veh/h		1700		Demand/Capacity	(D/C)	0.04
Intermediate Resu	lts					
Segment Vertical Class		1		Free-Flow Speed,	mi/h	48.2
Speed Slope Coefficient		3.17262		Speed Power Coefficient		0.41674
PF Slope Coefficient		-1.37591		PF Power Coefficient		0.72726
In Passing Lane Effective L	ength?	No		Total Segment Density, veh/mi/ln		0.2
%Improved % Followers		0.0		% Improved Avg Speed		0.0
Subsegment Data						
# Segment Type		Length, ft	Rac	lius, ft	Superelevation, %	Average Speed, mi/h
1 Tangent		5280	-		-	48.2
Vehicle Results						
Average Speed, mi/h 48.2			Percent Followers, %		17.5	
Segment Travel Time, min	utes	1.24		Followers Density,	followers/mi/ln	0.2
Vehicle LOS		A				

4_Lodi Ln – East of Project Driveway (WB) – Saturday PM – F.xuf

		HCS7 Two-La	ane	e Highway Re	eport	
Pro	ject Information					
Anal	yst	КТ		Date		12/4/20
Ager	псу	W-Trans		Analysis Year		2020
Juris	diction	County of Napa		Time Period Analy	zed	Saturday PM Future
Proje	ect Description	Silverado Trail – North Lodi Lane (NB) – Satur PM	n of rday	Unit		United States Customary
		S	egn	nent 1		
Veł	icle Inputs					
Segr	nent Type	Passing Constrained		Length, ft		5280
Lane	Width, ft	12		Shoulder Width, f	t	6
Spee	d Limit, mi/h	45		Access Point Dens	iity, pts/mi	5.0
Der	mand and Capacity					
Direc	tional Demand Flow Rate, veh/h	423	423		d Flow Rate, veh/h	-
Peak	Hour Factor	1.00		Total Trucks, %		3.00
Segr	nent Capacity, veh/h	1700		Demand/Capacity	(D/C)	0.25
Inte	ermediate Results					
Segn	nent Vertical Class	1			mi/h	50.0
Spee	d Slope Coefficient	3.26747		Speed Power Coefficient		0.41674
PF SI	ope Coefficient	-1.36740		PF Power Coefficient		0.73276
In Pa	ssing Lane Effective Length?	No		Total Segment Density, veh/mi/ln		4.6
%lm	proved % Followers	0.0		% Improved Avg Speed		0.0
Sub	osegment Data					
#	Segment Type	Length, ft	Rad	dius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	5280	-		-	47.9
Veł	icle Results				·	
Aver	age Speed, mi/h	47.9		Percent Followers, %		51.7
Segn	nent Travel Time, minutes	1.25		Followers Density,	followers/mi/ln	4.6
Vehi	cle LOS	В				
Copyri	ght © 2020 University of Florida. All Rights	s Reserved. HCS 100	Two-L	Lane Version 7.8		Generated: 12/06/2020 21:20:44

eserved. HCSTMI Two-Lane Version 7.8 5_Silverado Trail – North of Lodi Lane (NB) – Saturday PM – F.xuf

		HCS7 Two-L	ane	e Highway Re	eport	
Pro	oject Information					
Ana	lyst	КТ		Date		12/4/20
Age	ncy	W-Trans		Analysis Year		2020
Juris	sdiction	County of Napa		Time Period Analy	zed	Saturday PM Future
Proj	ect Description	Silverado Trail – North Lodi Lane (SB) – Satur PM	h of rday	Unit		United States Customary
		S	egr	nent 1		
Vel	hicle Inputs					
Seg	ment Type	Passing Constrained		Length, ft		5280
Lane	e Width, ft	12		Shoulder Width, f	t	6
Spe	ed Limit, mi/h	45		Access Point Density, pts/mi		1.0
De	mand and Capacity					
Dire	ctional Demand Flow Rate, veh/h	381	Opposing Demand Flow Rate, ver		d Flow Rate, veh/h	
Peal	k Hour Factor	1.00		Total Trucks, %		3.00
Seg	ment Capacity, veh/h	1700		Demand/Capacity	(D/C)	0.22
Int	ermediate Results					
Seg	ment Vertical Class	1	Free-F		mi/h	51.0
Spe	ed Slope Coefficient	3.32167		Speed Power Coefficient		0.41674
PF S	ilope Coefficient	-1.36197		PF Power Coefficient		0.73580
In Pa	assing Lane Effective Length?	No		Total Segment Density, veh/mi/ln		3.8
%lm	nproved % Followers	0.0		% Improved Avg Speed		0.0
Su	bsegment Data			·		
#	Segment Type	Length, ft F		dius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	5280	-		-	49.0
Vel	hicle Results					
Ave	rage Speed, mi/h	49.0		Percent Followers,	%	48.8
Seg	ment Travel Time, minutes	1.22		Followers Density,	followers/mi/ln	3.8
Veh	icle LOS	В				
Copyr	ight © 2020 University of Florida. All Rights	Reserved. HCSTM	Two-I	Lane Version 7.8		Generated: 12/06/2020 21:21:2

5_Silverado Trail – North of Lodi Lane (SB) – Saturday PM – F.xuf

		HCS7 Two-L	ane	e Highway Re	eport	
Pro	ject Information					
Anal	yst	КТ		Date		12/4/20
Ager	псу	W-Trans		Analysis Year		2020
Juris	diction	County of Napa		Time Period Analy	zed	Saturday PM Future
Proje	ect Description	Silverado Trail – Sout Lodi Lane (NB) – Satu PM	h of Irday	Unit		United States Customary
		S	egn	ment 1		
Veh	icle Inputs					
Segr	nent Type	Passing Constrained		Length, ft		5280
Lane	Width, ft	12		Shoulder Width, ft	:	6
Spee	d Limit, mi/h	45		Access Point Density, pts/mi		5.0
Der	nand and Capacity					
Direc	ctional Demand Flow Rate, veh/h	439		Opposing Demand Flow Rate, veh/h		-
Peak	Hour Factor	1.00		Total Trucks, %		3.00
Segr	nent Capacity, veh/h	1700		Demand/Capacity	(D/C)	0.26
Inte	ermediate Results					
Segn	nent Vertical Class	1		Free-Flow Speed, mi/h		50.0
Spee	d Slope Coefficient	3.26747		Speed Power Coefficient		0.41674
PF SI	ope Coefficient	-1.36740		PF Power Coefficient		0.73276
In Pa	ssing Lane Effective Length?	No		Total Segment Density, veh/mi/ln		4.8
%lm	proved % Followers	0.0		% Improved Avg Speed		0.0
Sub	osegment Data					
#	Segment Type	Length, ft	Rad	dius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	5280	-		-	47.9
Veh	icle Results					
Aver	age Speed, mi/h	47.9		Percent Followers, %		52.7
Segn	nent Travel Time, minutes	1.25		Followers Density,	followers/mi/ln	4.8
Vehi	cle LOS	В				
Copyright © 2020 University of Florida. All Rights Reserved. HCS 100 Truo-Lane Version 7.8 Generated: 12/06/2020 21						

eserved. HCS1100 Two-Lane Version 7.8 6_Silverado Trail – South of Lodi Lane (NB) – Saturday PM – F.xuf

		HCS/ Iwo-La	ane	Highway Re	eport	
Pro	ject Information					
Anal	yst	КТ		Date		12/4/20
Ager	псу	W-Trans		Analysis Year		2020
Juris	diction	County of Napa		Time Period Analy	zed	Saturday PM Future
Proje	ect Description	Silverado Trail – South Lodi Lane (SB) – Saturo PM	of day	Unit		United States Customary
		Se	egn	nent 1		
Veh	nicle Inputs					
Segn	nent Type	Passing Constrained		Length, ft		5280
Lane	Width, ft	12		Shoulder Width, f	t	6
Spee	ed Limit, mi/h	45		Access Point Dens	ity, pts/mi	1.0
Der	nand and Capacity					
Direc	ctional Demand Flow Rate, veh/h	381		Opposing Deman	d Flow Rate, veh/h	
Peak	Hour Factor	1.00		Total Trucks, %		3.00
Segn	nent Capacity, veh/h	1700		Demand/Capacity	(D/C)	0.22
Inte	ermediate Results					
Segn	nent Vertical Class	1		Free-Flow Speed,	mi/h	51.0
Spee	d Slope Coefficient	3.32167		Speed Power Coefficient		0.41674
PF SI	ope Coefficient	-1.36197		PF Power Coefficient		0.73580
In Pa	ssing Lane Effective Length?	No		Total Segment Density, veh/mi/ln		3.8
%lm	proved % Followers	0.0		% Improved Avg Speed		0.0
Sub	segment Data					
#	Segment Type	Length, ft	Rac	lius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	5280	-		-	49.0
Veh	nicle Results					
Aver	age Speed, mi/h	49.0		Percent Followers,	%	48.8
Segn	nent Travel Time, minutes	1.22		Followers Density,	followers/mi/ln	3.8
Vehio	cle LOS	В				

6_Silverado Trail – South of Lodi Lane (SB) – Saturday PM – F.xuf

	HCS7 Two-	-Lane	Highway Re	eport	
Project Information					
Analyst	КТ		Date		12/4/20
Agency	W-Trans		Analysis Year		2020
Jurisdiction	County of Napa		Time Period Analy	zed	Friday PM Existing plus Project
Project Description	SR 29 – North of Lo (NB) – Friday PM	odi Lane	Unit		United States Customary
		Segn	nent 1		
Vehicle Inputs					
Segment Type	Passing Constraine	d	Length, ft		5280
Lane Width, ft	12		Shoulder Width, f	t	6
Speed Limit, mi/h	50		Access Point Dens	sity, pts/mi	4.0
Demand and Capacity					
Directional Demand Flow Rate, veh/h	735		Opposing Deman	d Flow Rate, veh/h	-
Peak Hour Factor	0.96		Total Trucks, %		4.00
Segment Capacity, veh/h	1700		Demand/Capacity	r (D/C)	0.43
Intermediate Results					
Segment Vertical Class	1		Free-Flow Speed,	mi/h	55.9
Speed Slope Coefficient	3.58815		Speed Power Coefficient		0.41674
PF Slope Coefficient	-1.32983		PF Power Coefficient		0.75000
In Passing Lane Effective Length?	No		Total Segment Density, veh/mi/ln		9.1
%Improved % Followers	0.0		% Improved Avg Speed		0.0
Subsegment Data					
# Segment Type	Length, ft	Rad	lius, ft	Superelevation, %	Average Speed, mi/h
1 Tangent	5280	-		-	52.9
Vehicle Results					
Average Speed, mi/h 52.9			Percent Followers	, %	65.2
Segment Travel Time, minutes	1.13	Followers Densit		, followers/mi/ln	9.1
Vehicle LOS	С				
Copyright © 2020 University of Florida. All Right	s Reserved. HCS 1 SR 29 – North	STMI Two-L of Lodi Lan	ane Version 7.8 e (NB) – Friday PM – E-	+P.xuf	Generated: 12/06/2020 21:42:3:

		HCS7 Two-La	ine F	Highway Re	eport	
Pro	ject Information					
Anal	yst	КТ	0	Date		12/4/2020
Age	псу	W-Trans	A	Analysis Year		2020
Juris	diction	County of Napa	T	Time Period Analy	zed	Friday PM Existing plus Project
Proje	ect Description	SR 29 – North of Lodi L (SB) – Friday PM	Lane l	Unit		United States Customary
		Se	egme	ent 1		
Veł	nicle Inputs					
Segr	nent Type	Passing Constrained	L	Length, ft		5280
Lane	Width, ft	12	5	Shoulder Width, fi	t	6
Spee	ed Limit, mi/h	50	A	Access Point Density, pts/mi		10.0
De	mand and Capacity					
Dire	ctional Demand Flow Rate, veh/h	674		Opposing Demand Flow Rate, veh/h		-
Peak	Hour Factor	0.96	T	Total Trucks, %		4.00
Segr	nent Capacity, veh/h	1700	0	Demand/Capacity	(D/C)	0.40
Int	ermediate Results					
Segr	nent Vertical Class	1	F	Free-Flow Speed,	mi/h	54.4
Spee	ed Slope Coefficient	3.50685		Speed Power Coefficient		0.41674
PF S	lope Coefficient	-1.34047	F	PF Power Coefficient		0.74585
In Pa	assing Lane Effective Length?	No	T	Total Segment Density, veh/mi/ln		8.3
%lm	proved % Followers	0.0	9	% Improved Avg Speed		0.0
Sul	osegment Data					
#	Segment Type	Length, ft	Radiu	ıs, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	5280	-		-	51.6
Veł	nicle Results					
Average Speed, mi/h 51.6		F	Percent Followers, %		63.2	
Segr	nent Travel Time, minutes	1.16	F	Followers Density,	followers/mi/ln	8.3
Vehi	cle LOS	C				
Copyri	ght © 2020 University of Florida. All Rights	Reserved. HCSTMI T	Two-Lan	e Version 7.8		Generated: 12/06/2020 21:43:34

1_SR 29 - North of Lodi Lane (SB) - Friday PM - E+P.xuf
	HCS7 Two-Lane Highway Report								
Pro	ject Information								
Anal	yst	КТ	Date		12/4/2020				
Ager	су	W-Trans	Analysis Year		2020				
Juris	diction	County of Napa	Time Period Analy	/zed	Friday PM Existing plus Project				
Proje	ect Description	SR 29 – South of Lodi La (NB) – Friday PM	ane Unit		United States Customary				
		Se	gment 1						
Veł	icle Inputs								
Segr	nent Type	Passing Constrained	Length, ft		5280				
Lane	Width, ft	12	Shoulder Width, f	t	6				
Spee	d Limit, mi/h	50	Access Point Den	sity, pts/mi	4.0				
Der	mand and Capacity								
Direc	tional Demand Flow Rate, veh/h	740	Opposing Deman	d Flow Rate, veh/h	-				
Peak	Hour Factor	0.96	Total Trucks, %		4.00				
Segr	nent Capacity, veh/h	1700	Demand/Capacity	/ (D/C)	4.00 0.44				
Inte	ermediate Results								
Segn	nent Vertical Class	1	Free-Flow Speed,	mi/h	55.9				
Spee	d Slope Coefficient	3.58815	Speed Power Coe	fficient	0.41674				
PF SI	ope Coefficient	-1.32983	PF Power Coeffici	ent	0.75000				
In Pa	ssing Lane Effective Length?	No	Total Segment De	ensity, veh/mi/ln	9.1				
%lm	proved % Followers	0.0	% Improved Avg	Speed	0.0				
Suk	osegment Data								
#	Segment Type	Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h				
1	Tangent	angent 5280 -		-	52.9				
Veh	icle Results								
Average Speed, mi/h 52.9 Percent Followers, % 65.4					65.4				
Segn	nent Travel Time, minutes	1.13	Followers Density	, followers/mi/ln	9.1				
Vehi	le LOS	с							
Copyright © 2020 University of Florida. All Rights Reserved. HCSTMI Two-Lane Version 7.8 Generated: 12/06/2020 21:4									

Copyright © 2020 University of Florida. All Rights Reserved. HCS100 Two-Lane Version 7.8 2_SR 29 – South of Lodi Lane (NB) – Friday PM – E+P.xuf

		HCS7 Two-La	ne Highway R	eport			
Pro	ject Information						
Ana	yst	KT	Date		12/4/2020		
Age	ncy	W-Trans	Analysis Year		2020		
Juris	diction	County of Napa	Time Period Anal	yzed	Friday PM Existing plus Project		
Proj	ect Description	SR 29 – South of Lodi Li (SB) – Friday PM	ane Unit		United States Customary		
		Se	gment 1				
Vel	nicle Inputs						
Segi	nent Type	Passing Constrained	Length, ft		5280		
Lane	e Width, ft	12	Shoulder Width,	ft	6		
Spee	ed Limit, mi/h	50	Access Point Den	sity, pts/mi	10.0		
De	mand and Capacity						
Dire	ctional Demand Flow Rate, veh/h	736	Opposing Demar	nd Flow Rate, veh/h	-		
Peak	Hour Factor	0.96	Total Trucks, %		4.00		
Segi	ment Capacity, veh/h	1700	Demand/Capacit	y (D/C)	0.43		
Int	ermediate Results						
Seg	ment Vertical Class	1	Free-Flow Speed,	Free-Flow Speed, mi/h 54.4			
Spee	ed Slope Coefficient	3.50685	Speed Power Coe	efficient	0.41674		
PF S	lope Coefficient	-1.34047	PF Power Coeffic	ient	0.74585		
In Pa	assing Lane Effective Length?	No	Total Segment De	ensity, veh/mi/ln	9.4		
%lm	proved % Followers	0.0	% Improved Avg	Speed	0.0		
Sul	osegment Data						
#	Segment Type	Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h		
1	Tangent	5280	-	-	51.5		
Vel	nicle Results						
Ave	age Speed, mi/h	51.5	Percent Followers	5, %	65.6		
Seg	ment Travel Time, minutes	1.17	Followers Density	/, followers/mi/ln	9.4		
Vehi	cle LOS	C					
Copyr	opyright © 2020 University of Florida. All Rights Reserved. HCS1998 Two-Lane Version 7.8 Generated: 12/06/2020 21:45:4						

2_SR 29 - South of Lodi Lane (SB) - Friday PM - E+P.xuf

	HCS7 Two-Lane Highway Report								
Pro	ject Information								
Anal	yst	КТ	Date		12/4/2020				
Ager	псу	W-Trans	Analysis Year		2020				
Juris	diction	County of Napa	Time Period Ana	alyzed	Friday PM Existing plus Project				
Proje	ect Description	Lodi Ln – West of Proje Driveway (EB) – Friday	ct Unit PM		United States Customary				
		Se	egment 1						
Veł	nicle Inputs								
Segr	nent Type	Passing Constrained	Length, ft		5280				
Lane	Width, ft	14	Shoulder Width,	ft	0				
Spee	ed Limit, mi/h	45	Access Point De	nsity, pts/mi	11.0				
Dei	mand and Capacity								
Dire	ctional Demand Flow Rate, veh/h	71	Opposing Dema	and Flow Rate, veh/h	-				
Peak	Hour Factor	0.96	Total Trucks, %		4.00				
Segr	nent Capacity, veh/h	1700	Demand/Capaci	ty (D/C)	/C) 0.04				
Inte	ermediate Results								
Segr	nent Vertical Class	1	Free-Flow Speed	d, mi/h	45.4				
Spee	ed Slope Coefficient	3.02176	Speed Power Co	oefficient	0.41674				
PF S	lope Coefficient	-1.38649	PF Power Coeffic	cient	0.71813				
In Pa	ssing Lane Effective Length?	No	Total Segment D	Density, veh/mi/ln	0.3				
%lm	proved % Followers	0.0	% Improved Avg	g Speed	0.0				
Sub	osegment Data								
#	Segment Type	Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h				
1	Tangent	5280	-	-	45.4				
Veł	nicle Results								
Aver	Average Speed, mi/h 45.4 Percent Followers, % 18.7								
Segr	nent Travel Time, minutes	1.32	Followers Densit	ty, followers/mi/ln	0.3				
Vehi	cle LOS	A							
Copyright © 2020 University of Florida. All Rights Reserved. HCS1000 Two-Lane Version 7.8 Generated: 12/06/2020 21:46:									

Copyright © 2020 University of Florida. All Rights Reserved. HCS 3 Lodi Ln – West of Project Driveway (EB) – Friday PM – E+P.xuf

Project Information Analyst KT Date 12/4/2020 Agency W-Trans Analysis Year 2020 Jurisdiction County of Napa Time Period Analyzed Friday PM Existing plu Project Project Description Loci Lin - West of Project Lowits Unit Unite United States Custom Segment 1 Vehicle Inputs Segment Type Passing Constrained Length, ft 5280 Lane Width, ft 0 Speed Limit, mi/h 45 Access Point Density, pts/mi 10.0 Derectional Demand Flow Rate, veh/h 129 Opposing Demand Flow Rate, veh/h - Qprosing Demand Flow Rate, veh/h 129 Opposing Demand Flow Rate, veh/h - Derectional Demand Flow Rate, veh/h 129 Opposing Demand Flow Rate, veh/h - Segment Tate 40.0 Segment Seconflicient 0.96 Total Trucks, % 40.0 Speed Siope Coefficient 0.93531 Speed Power Coefficient 0.41674 Price Cefficient 0.33531 Speed	HCS7 Two-Lane Highway Report								
Analyst KT Date 12/4/2020 Agency W-Trans Analysis Year 2020 Jurisdiction County of Napa Time Period Analyzed Priday PM Existing pla Project Project Description Lodi Ln - West of Project Unit United States Custorn Segment 1 Vertice Inputs Segment Type Passing Constrained Length, ft 5280 Lane Width, ft 14 Shoulder Width, ft 0 Special and Capacity Directional Capacity Directional Demand Flow Rate, veh/h 129 Opposing Demand Flow Rate, veh/h - Access Point Density, pts/mi 10.0 Directional Demand Flow Rate, veh/h 129 Opposing Demand Flow Rate, veh/h - Segment Capacity, veh/h 129 Opposing Demand Flow Rate, veh/h - - Segment Capacity, veh/h 100 Demand/Capacity (DC) 0.08 - - Segment Capacity, veh/h 10 Speed Power Coefficient 0.16 - - - Speed Domer Coefficient<	Project Information								
Agery W-Trans Analysis Year 2020 Jurisdiction County of Napa Time Period Analyzed Friday PM Existing pla Project Project Lodit Ln - West of Project Driveway (WB) - Friday PM Unit United States Custom Segrent 1 Verified PM Segrent 1 Segrent 1 Verified Passing Constrained Length, ft 5280 Call Mutth, ft 14 Shoulder Width, ft 0 Specimit and Capacity Opposing Demart Into Kate, verified Specimit And Capacity Opposing Demart Flow Rate, verified No Speci Coefficient 10° Speci Coefficient Speci Coefficient Speci Coefficient Speci Coefficient Speci Coefficient Speci Coefficient No Speci Coefficient No Speci Coefficient Speci Coefficient Speci Coefficient No Speci Coefficient <td colspan<="" th=""><th>Analyst</th><th>КТ</th><th></th><th>Date</th><th></th><th>12/4/2020</th></td>	<th>Analyst</th> <th>КТ</th> <th></th> <th>Date</th> <th></th> <th>12/4/2020</th>	Analyst	КТ		Date		12/4/2020		
Jurisdiition County of Napa Time Period Analyzed Friday PM Existing plu Project Project Projec	Agency	W-Trans		Analysis Year		2020			
Project Description Lodi Ln – West of Project Driveway (WB) – Friday PM Unit Import United States Custom Segure 1 Segure 1 Segure 1 Direct Acapacity Segure 1 Segure 1 Direct Acapacity Segure 1 Segure 1 Segure 2 Segure 1 Segure 1 Segure 2 Segure 1 Segure 2 Segure 2 Segure 2 Segure 2 Segure 2 Segure 2 Segure 2 Segure 2 Segure 2 Segure 2 Segure 2 Segure 2 Segure 2 Segure 2 Segure 2 Segure 2 Segure 2 Segure 2 Segure 2 Segure 2 Segure 2 Segure 2 Segure 2	Jurisdiction	County of Napa		Time Period Analy	zed	Friday PM Existing plus Project			
Segite of parameter of param	Project Description	Lodi Ln – West of I Driveway (WB) – F	Project riday PN	Unit 1		United States Customary			
Vehicle InputsSegment TypePassing ConstrainedLength, ft5280Lane Width, ft14Shoulder Width, ft0Speed Limit, mi/h45Access Point Density, pts/mi10.0Directional Demand Flow Rate, veh/h129Opposing Demand Flow Rate, veh/h-Directional Demand Flow Rate, veh/h129Opposing Demand Flow Rate, veh/h-Peak Hour Factor0.96Total Trucks, %4.00Segment Capacity, veh/h1700Demand/Capacity (D/C)0.08Intermediate ResultsSegment Vertical Class1Free-Flow Speed, mi/h45.7Speed Power Coefficient0.41674PF over Coefficient0.41674PF sope Coefficient-Interfective Length?NoTotal Segment Density, veh/mi/ln0.8Segment Type0.0% Improved Avg Speed0.0NoTotal Segment Density, veh/mi/ln0.8Segment TypeLength, ftRadius, ftSuperelevation, %Average Speed, mi/h1Total Segment Type1.62.045.0Vertical ClassSuperelevation, %Average Speed, mi/hSegment TypeLength, ftRadius, ftSuperelevation, %Average Speed, mi/h1Total Segment Type2.045.0Vertical ClassSupere			Segi	ment 1					
Segwent Type Passing Constrained Length, ft 5280 Lane Width, ft 14 Shoulder Width, ft 0 Speed Limit, mi/h 45 Access Point Density, pts/mi 10.0 Directional Demand Flow Rate, veh/h 129 Opposing Demand Flow Rate, veh/h - Peak Hour Factor 0.96 Total Trucks, % 4.00 Segment Capacity, veh/h 1700 Demand/Capacity (D/C) 0.08 Interventional Class 1 5280 Segwent Capacity veh/h 1700 Demand/Capacity (D/C) 0.08 Segwent Vertical Class 1 Segment Speed, mi/h 45.7 Speed Sologe Coefficient 3.03531 Speed Power Coefficient 0.41674 PF Sive Coefficient -1.38568 PF Power Coefficient 0.1899 0.0 In Passing Lane Effective Length? No Total Segment Density, veh/mi/ln 0.8 KIM proved % Followers 0.0 % Improved Avg Speed 0.0 0.0 Segment Type Length, ft Superelevation, % Average Speed, mi/h 1 Tangent S280	Vehicle Inputs								
Lane Width, ft14Shoulder Width, ft0Speed Limit, mi/h45Access Point Density, pts/mi10.0Directional Demand CapacityDirectional Demand Flow Rate, veh/h129Opposing Demand Flow Rate, veh/h-Peak Hour Factor0.96Total Trucks, %4.00Segment Factors trucks, weighth1700Demand/Capacity (D/C)0.08Interventional ResultsSegment Vertical Class1Free-Flow Speed, mi/h45.7Speed Slope Coefficient3.03531Speed Power Coefficient0.41674PF Slope Coefficient1.38568PF Power Coefficient0.41674NoTotal Segment Density, veh/mi/ln0.8NoTotal Segment Density, veh/mi/ln0.8Sigment Type0.0Wimproved Avg Speed, mi/h0.0Superlevation, % Average Speed, mi/h1 angent5280-45.0Superlevation, % Average Speed, mi/h1 angent5280-Superlevation, % Average Speed, mi/hSuperlevation, %Average Speed, mi/h <td colspan<="" td=""><td>Segment Type</td><td>Passing Constraine</td><td>ed</td><td>Length, ft</td><td></td><td>5280</td></td>	<td>Segment Type</td> <td>Passing Constraine</td> <td>ed</td> <td>Length, ft</td> <td></td> <td>5280</td>	Segment Type	Passing Constraine	ed	Length, ft		5280		
Spew Limit, mi/n45Access Point Density, pts/mi10.0Derwich and CapacityDirwet and CapacityOpposing Demand Flow Rate, veh/n129Opposing Demand Flow Rate, veh/n-Peak main and Capacity veh/n129Total Trucks, %4.00Segment Capacity, veh/n0.96Total Trucks, %4.00Segment Capacity, veh/n1700Demand/Capacity (D/C)0.08Segment Capacity, veh/n10.0Free-Flow Speed, ~	Lane Width, ft	14		Shoulder Width, f	t	0			
Derward CapacityDire total Demand Flow Rate, veh/h129Opposing Demat, veh/h-Peak0.96Total Trucks, %4.00Seg met Capacity, veh/h1700Demand/Capacity (DC)0.08Demand/Capacity, veh/h1700Total Trucks, %0.08Seget tessultsSeget ResultsSeget Coefficient1*Free-Flow Speed, Total Capacity (DC)0.01674Speed Power Coefficient3.03531*Speed Power Coefficient0.41674Speed Fore Coefficient1.38568*Speed Power Coefficient0.41674In Pasing Lane Effective Length?No*No*0.01674Speed Fore Coefficient0.36351*Total Segment Data0.00.0Speed Fore Total Segment Data*No*No*NoSpeed TypeLength, ftSuperelavion, %Average Speed, mi/hSpeed TypeLength, ftSuperelavion, %Average Speed, mi/hSpeed, mi/hSpeed, mi/hSpeed Fore Total Segment Typespeed Speed, mi/hSpeed, mi/hSpeed Speed, mi/hSpeed Speed, mi/hSpeed, mi/hSpeed Speed, mi/h<	Speed Limit, mi/h	45		Access Point Dens	sity, pts/mi	10.0			
Directional Demand Flow Rate, veh/h 129 Opposing Demand Flow Rate, veh/h - Peak Hour Factor 0.96 Total Trucks, % 4.00 Segment Capacity, veh/h 1700 Demand/Capacity (D/C) 0.08 Intermediate Results Segment Vertical Class 1 Free-Flow Speed, mi/h 45.7 Speed Slope Coefficient 3.03531 Speed Power Coefficient 0.41674 PF Slope Coefficient -1.38568 PF Power Coefficient 0.1899 In Passing Lane Effective Length? No Total Segment Density, veh/mi/ln 0.8 %Improved % Followers 0.0 % Improved Avg Speed, mi/h 0.0 0.0 Segment Type # Segment Type Length, ft Radius, ft Superelevation, % Average Speed, mi/h 1 Tangent 5280 - - 45.0 - Vertical Followers, % 27.2 Segment Time, minutes 1.33 Followers Density, Followers/mi/ln 0.8	Demand and Capacity								
Peak Hour Factor 0.96 Total Trucks, % 4.00 Seg → Capacity, veh/h 1700 Demand/Capacity (D/C) 0.08 Intermediate Results Seg → t Vertical Class 1 Free-Flow Speed, \neg /n 45.7 Speed Slope Coefficient 3.03531 Speed Power Coefficient 0.41674 PF Slope Coefficient 1.38568 PF Power Coefficient 0.41674 PF Slope Coefficient -1.38568 PF Power Coefficient 0.71899 In Passing Lane Effective Length? No Total Segment Deriv, veh/mi/ln 0.8 % Improved % Followers 0.0 % Improved Avg Speed, mi/ln 0.0 0.0 Segment Type Length, ft Radius, ft Superelevation, % Average Speed, mi/h 1 Tangent 5280 - - 45.0 Verter Followers Struct Followers Struct Followers 27.2 Segment Type 45.0 Struct Followers Followers 27.2 Struct Followers Followers 58	Directional Demand Flow Rate, veh/h	129		Opposing Demand Flow Rate, veh/h		-			
Segwent Capacity, veh/h 1700 Demand/Capacity (D/C) 0.08 Interval Capacity, veh/h 0.08 Interval Capacity, veh/h 0.08 Segwent Vertical Class 1 Free-Flow Speed, mi/h 45.7 Speed Slope Coefficient 3.03531 Speed Power Coefficient 0.41674 Speed Power Coefficient 0.41674 PF Power Coefficient 0.41674 In Passing Lane Effective Length? No V 701899 Int Segment Demote Vertice Vertice 0.0 Segment Type 0.0 % Improved Avg Speed, mi/h 0.8 Segment Type Length, ft Radius, ft Superelevation, % Average Speed, mi/h Average Speed, mi/h 5280 - - 45.0 Segment Type 45.0 27.2 Followers Pericer Followers, Followers/Followers/mi/h 0.8	Peak Hour Factor	0.96		Total Trucks, %		4.00			
Intervention IFree-Flow Speed, with the speed of the speed	Segment Capacity, veh/h	1700		Demand/Capacity	r (D/C)	0.08			
Segment Vertical Class 1 Free-Flow Speed, mi/h 45.7 Speed Slope Coefficient 3.03531 Speed Power Coefficient 0.41674 PF Slope Coefficient -1.38568 PF Power Coefficient 0.71899 In Passing Lane Effective Length? No Total Segment Density, veh/mi/ln 0.8 \otimes Improved % Followers 0.0 % Improved Avg Speed 0.0 Segment Data # Segment Type Length, ft Radius, ft Superelevation, % Average Speed, mi/h 1 Tangent 5280 - - 45.0 Vertice Results Average Speed, mi/h 45.0 Percent Followers, % 27.2 Segment Time, minutes 1.33 Followers Density, followers/mi/ln 0.8	Intermediate Results								
Speed Slope Coefficient 3.03531 Speed Power Coefficient 0.41674 PF Slope Coefficient -1.38568 PF Power Coefficient 0.71899 In Passing Lane Effective Length? No Total Segment Density, veh/mi/ln 0.8 %Improved % Followers 0.0 % Improved Avg ped 0.0 Segment Data # Segment Type Length, ft Radius, ft Superelevation, % Average Speed, mi/h 1 Tangent 5280 - - 45.0 Verial Effective Lingth, ft Radius, ft Superelevation, % Average Speed, mi/h 1 Tangent 5280 - - 45.0 Verial Effective Length? Verial Effective Length, ft Radius, ft Superelevation, % Average Speed, mi/h 1 Tangent 5280 - - 45.0 Verial Effective Length? Verial Effective Length? 27.2 Superelevation (howers, Followers, Fol	Segment Vertical Class	1		Free-Flow Speed,	mi/h	45.7			
PF Sipe Coefficient -1.38568 PF Power Coefficient 0.71899 In Passing Lane Effective Length? No Total Segment Ders, veh/mi/ln 0.8 % Improved Avg Spellowers 0.0 % Improved Avg Spellowers 0.0 Segment Type Length, ft Radius, ft Superelevation, % Average Speed, mi/h 1 Tangent 5280 - - 45.0 Verser Ver	Speed Slope Coefficient	3.03531		Speed Power Coefficient		0.41674			
In Passing Lane Effective Length? No Total Segment Denity, veh/mi/ln 0.8 % Improved Avg Denity, veh/mi/ln 0.0 % Improved Avg Denity, veh/mi/ln 0.8 Superity Data # Segment Type Length, ft Radius, ft Superelevation, % Average Speed, mi/h 1 Tangent S280 - - 45.0 Veille Results Average Speed, mi/h 45.0 Speed, mi/h 45.0 Speed, mi/h 1.33	PF Slope Coefficient	-1.38568		PF Power Coefficie	ent	0.71899			
%Improved % Followers 0.0 % Improved Avg Speed 0.0 Superstein Data # Segment Type Length, ft Radius, ft Superelevation, % Average Speed, mi/h 1 Tangent S280 - - 45.0 Verice Results Average Speed, mi/h 45.0 Segment Travel Time, minutes 1.33 Followers Density, Followers/mi/ln 0.8	In Passing Lane Effective Length?	No		Total Segment De	nsity, veh/mi/ln	0.8			
Subsegment Data # Segment Type Length, ft Radius, ft Superelevation, % Average Speed, mi/h 1 Tangent 5280 - - 45.0 Verification Speed, mi/h Average Speed, mi/h Average Speed, mi/h 1.33 Percent Followers, followers/mi/ln 0.8	%Improved % Followers	0.0		% Improved Avg S	Speed	0.0			
# Segment Type Length, ft Radius, ft Superelevation, % Average Speed, mi/h 1 Tangent 5280 - - 45.0 Veise Results Average Speed, mi/h 45.0 27.2 Segment Travel Time, minutes 1.33 Followers Density, followers/mi/ln 0.8	Subsegment Data								
1 Tangent 5280 - - 45.0 Veilage Results Average Speed, mi/h 45.0 Percent Followers, with results 27.2 Segment Travel Time, minutes 1.33 Followers Density, followers/mi/ln 0.8	# Segment Type	Length, ft	Ra	idius, ft	Superelevation, %	Average Speed, mi/h			
Vehicle Results Average Speed, mi/h 45.0 Percent Followers, % 27.2 Segment Travel Time, minutes 1.33 Followers Density, followers/mi/ln 0.8	1 Tangent 5280 -			-	45.0				
Average Speed, mi/h 45.0 Percent Followers, % 27.2 Segment Travel Time, minutes 1.33 Followers Density, followers/mi/ln 0.8	Vehicle Results								
Segment Travel Time, minutes 1.33 Followers Density, followers/mi/In 0.8	Average Speed, mi/h	45.0		Percent Followers	, %	27.2			
	Segment Travel Time, minutes	1.33		Followers Density	, followers/mi/ln	0.8			
Vehicle LOS A	Vehicle LOS	A							

3_Lodi Ln - West of Project Driveway (WB) - Friday PM - E+P.xuf

HCS7 Two-Lane Highway Report							
Pro	ject Information						
Anal	yst	КТ	Date		12/4/2020		
Ager	ncy	W-Trans	Analysis Year		2020		
Juris	diction	County of Napa	Time Period Anal	yzed	Friday PM Existing plus Project		
Proje	ect Description	Lodi Ln – East of Project Driveway (EB) – Friday F	t Unit PM		United States Customary		
		Se	gment 1				
Veł	nicle Inputs						
Segr	nent Type	Passing Constrained	Length, ft		5280		
Lane	Width, ft	14	Shoulder Width,	ft	0		
Spee	ed Limit, mi/h	45	Access Point Den	sity, pts/mi	11.0		
Dei	mand and Capacity						
Dire	ctional Demand Flow Rate, veh/h	86	Opposing Demar	nd Flow Rate, veh/h	-		
Peak	Hour Factor	0.96	Total Trucks, %		2.00		
Segr	ment Capacity, veh/h	1700	Demand/Capacit	y (D/C)	0.05		
Inte	ermediate Results						
Segr	nent Vertical Class	1	Free-Flow Speed,	mi/h	45.5		
Spee	ed Slope Coefficient	3.02537	Speed Power Coe	efficient	0.41674		
PF S	lope Coefficient	-1.38653	PF Power Coeffic	ient	0.71808		
In Pa	assing Lane Effective Length?	No	Total Segment De	ensity, veh/mi/ln	0.4		
%lm	proved % Followers	0.0	% Improved Avg	Speed	0.0		
Sub	osegment Data						
#	Segment Type	Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h		
1	Tangent	5280	-	-	45.5		
Veł	Vehicle Results						
Aver	age Speed, mi/h	45.5	Percent Followers	5, %	21.3		
Segr	ment Travel Time, minutes	1.32	Followers Density	ı, followers/mi/ln	0.4		
Vehi	cle LOS	A					
copyright © 2020 University of Florida. All Rights Reserved. HCS1000 Two-Lane Version 7.8 Generated: 12/06/2020 21:47							

Copyright © 2020 University of Florida. All Rights Reserved. HCS100 Two-Lane Version 7.8 4_Lodi Ln – East of Project Driveway (EB) – Friday PM – E+P.xuf

	HCS7 Two-Lane Highway Report								
Pro	oject Information								
Ana	lyst	КТ		Date		12/4/20			
Age	ncy	W-Trans		Analysis Year		2020			
Juris	diction	County of Napa		Time Period Analy	zed	Friday PM Existing plus Project			
Proj	ect Description	Lodi Ln – East of Pro Driveway (WB) – Frid	ject lay PM	Unit		United States Customary			
		9	Segn	nent 1					
Vel	nicle Inputs								
Segi	ment Type	Passing Constrained		Length, ft		5280			
Lane	e Width, ft	14		Shoulder Width, f	t	0			
Spee	ed Limit, mi/h	45		Access Point Dens	iity, pts/mi	0.0			
De	mand and Capacity								
Dire	ctional Demand Flow Rate, veh/h	122		Opposing Demand Flow Rate, veh/h		-			
Peak	Hour Factor	0.96		Total Trucks, %		2.00			
Segi	ment Capacity, veh/h	1700		Demand/Capacity (D/C)		0.07			
Int	ermediate Results								
Seg	ment Vertical Class	1		Free-Flow Speed, mi/h 48.2					
Spee	ed Slope Coefficient	3.17442		Speed Power Coefficient		0.41674			
PF S	lope Coefficient	-1.37589		PF Power Coefficie	ent	0.72723			
In Pa	assing Lane Effective Length?	No		Total Segment De	nsity, veh/mi/ln	0.7			
%lm	proved % Followers	0.0		% Improved Avg	Speed	0.0			
Sul	bsegment Data								
#	Segment Type	Length, ft	Rac	dius, ft	Superelevation, %	Average Speed, mi/h			
1	Tangent	5280	-		-	47.6			
Vel	nicle Results								
Ave	Average Speed, mi/h 47.6 Percent Followers, % 25.8					25.8			
Seg	ment Travel Time, minutes	1.26		Followers Density	followers/mi/ln	0.7			
Vehi	Vehicle LOS A								
Copyr	ight © 2020 University of Florida. All Right	Reserved. HCST	M Two-L	ane Version 7.8		Generated: 12/06/2020 21:49:0			

4_Lodi Ln – East of Project Driveway (WB) – Friday PM – E+P.xuf

HCS7 Two-Lane Highway Report									
Pro	Project Information								
Anal	yst	КТ	Date		12/4/20				
Ager	ncy	W-Trans	Analysis Year		2020				
Juris	diction	County of Napa	Time Period Analy	yzed	Friday PM Existing plus Project				
Proje	ect Description	Silverado Trail – North o Lodi Lane (NB) – Friday	f Unit PM		United States Customary				
		Se	gment 1						
Veł	nicle Inputs								
Segr	nent Type	Passing Constrained	Length, ft		5280				
Lane	Width, ft	12	Shoulder Width, f	t	6				
Spee	ed Limit, mi/h	45	Access Point Den	sity, pts/mi	5.0				
Dei	mand and Capacity								
Dire	ctional Demand Flow Rate, veh/h	345	Opposing Deman	d Flow Rate, veh/h	-				
Peak	Hour Factor	0.96	Total Trucks, %		2.00				
Segr	ment Capacity, veh/h	1700	Demand/Capacity	Demand/Capacity (D/C) 0.20					
Inte	ermediate Results								
Segr	nent Vertical Class	1	Free-Flow Speed,	Free-Flow Speed, mi/h 50.0					
Spee	ed Slope Coefficient	3.26927	Speed Power Coe	fficient	0.41674				
PF S	lope Coefficient	-1.36736	PF Power Coeffici	ent	0.73272				
In Pa	assing Lane Effective Length?	No	Total Segment De	ensity, veh/mi/ln	3.3				
%lm	proved % Followers	0.0	% Improved Avg	Speed	0.0				
Sub	osegment Data								
#	Segment Type	Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h				
1	Tangent	5280	-	-	48.2				
Veł	nicle Results								
Aver	age Speed, mi/h	48.2	Percent Followers	, %	46.6				
Segr	ment Travel Time, minutes	1.25	Followers Density	, followers/mi/ln	3.3				
Vehi	cle LOS	В							
opyright © 2020 University of Florida. All Rights Reserved. HCS1000 Two-Lane Version 7.8 Generated: 12/06/2020 21:49									

Copyright © 2020 University of Florida. All Rights Reserved. HCS 100 Two-Lane Version 7.8 5_Silverado Trail – North of Lodi Lane (NB) – Friday PM – E+P.xuf

		HCS7 Two-L	ane	e Highway Re	eport	
Pro	ject Information					
Anal	yst	КТ		Date		12/4/20
Ager	ncy	W-Trans		Analysis Year		2020
Juris	diction	County of Napa		Time Period Analy	zed	Friday PM Existing plus Project
Proje	ect Description	Silverado Trail – Nort Lodi Lane (SB) – Frida	h of iy PM	Unit		United States Customary
		S	Segr	nent 1		
Veł	nicle Inputs					
Segr	nent Type	Passing Constrained		Length, ft		5280
Lane	e Width, ft	12		Shoulder Width, f	t	6
Spee	ed Limit, mi/h	45		Access Point Dens	ity, pts/mi	1.0
Dei	mand and Capacity					
Dire	ctional Demand Flow Rate, veh/h	329		Opposing Demand Flow Rate, veh/h Total Trucks. %		-
Peak	Hour Factor	0.96		Total Trucks, %		2.00
Segr	ment Capacity, veh/h	1700		Demand/Capacity (D/C)		0.19
Inte	ermediate Results					
Segr	ment Vertical Class	1		Free-Flow Speed,	mi/h	51.0
Spee	ed Slope Coefficient	3.32347		Speed Power Coe	fficient	0.41674
PF S	lope Coefficient	-1.36191		PF Power Coefficie	ent	0.73576
In Pa	assing Lane Effective Length?	No		Total Segment De	nsity, veh/mi/ln	3.0
%lm	proved % Followers	0.0		% Improved Avg S	Speed	0.0
Sul	osegment Data					
#	Segment Type	Length, ft	Rad	dius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	5280 ·			-	49.2
Veł	nicle Results					
Aver	age Speed, mi/h	49.2		Percent Followers,	, %	45.2
Segr	ment Travel Time, minutes	1.22		Followers Density,	followers/mi/In	3.0
Vehi	cle LOS	В				
Copyri	ight © 2020 University of Florida. All Rights	Reserved. HCST	ရ Two-I	Lane Version 7.8		Generated: 12/06/2020 21:50:16

5_Silverado Trail – North of Lodi Lane (SB) – Friday PM – E+P.xuf

	HCS7 Two-Lane Highway Report								
Pro	ject Information								
Anal	yst	КТ	Date		12/4/20				
Ager	псу	W-Trans	Analysis Year		2020				
Juris	diction	County of Napa	Time Period Analy	yzed	Friday PM Existing plus Project				
Proje	ect Description	Silverado Trail – South o Lodi Lane (NB) – Friday	of Unit PM		United States Customary				
		Se	gment 1						
Veł	nicle Inputs								
Segr	nent Type	Passing Constrained	Length, ft		5280				
Lane	Width, ft	12	Shoulder Width, f	t	6				
Spee	ed Limit, mi/h	45	Access Point Den	sity, pts/mi	5.0				
Dei	mand and Capacity								
Dire	ctional Demand Flow Rate, veh/h	380	Opposing Deman	d Flow Rate, veh/h	-				
Peak	Hour Factor	0.96	Total Trucks, %		2.00				
Segr	nent Capacity, veh/h	1700	Demand/Capacity	/ (D/C)	0.22				
Inte	ermediate Results								
Segr	nent Vertical Class	1	Free-Flow Speed,	mi/h	50.0				
Spee	ed Slope Coefficient	3.26927	Speed Power Coe	fficient	0.41674				
PF S	lope Coefficient	-1.36736	PF Power Coeffici	ent	0.73272				
In Pa	ssing Lane Effective Length?	No	Total Segment De	ensity, veh/mi/ln	3.9				
%lm	proved % Followers	0.0	% Improved Avg	Speed	0.0				
Sub	osegment Data								
#	Segment Type	Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h				
1	Tangent	5280	-	-	48.1				
Veł	nicle Results								
Aver	Average Speed, mi/h 48.1 Percent Followers, % 49.0								
Segr	nent Travel Time, minutes	1.25	Followers Density	, followers/mi/ln	3.9				
Vehi	cle LOS	В							
Copyright © 2020 University of Florida. All Rights Reserved. HCS1000 Two-Lane Version 7.8 Generated: 12/06/2020 21:50									

Copyright © 2020 University of Florida. All Rights Reserved. HCS 100 Two-Lane Version 7.8 6_Silverado Trail – South of Lodi Lane (NB) – Friday PM – E+P.xuf

HCS7 Two-Lane Highway Report							
Pro	ject Information						
Anal	yst	КТ		Date		12/4/20	
Ager	псу	W-Trans		Analysis Year		2020	
Juris	diction	County of Napa		Time Period Analy	zed	Friday PM Existing plus Project	
Proje	ect Description	Silverado Trail – South Lodi Lane (SB) – Friday	n of y PM	Unit		United States Customary	
		S	egn	nent 1			
Veł	icle Inputs						
Segr	nent Type	Passing Constrained		Length, ft		5280	
Lane	Width, ft	12		Shoulder Width, f	t	6	
Spee	ed Limit, mi/h	45		Access Point Dens	sity, pts/mi	1.0	
Der	nand and Capacity						
Dire	ctional Demand Flow Rate, veh/h	329		Opposing Demand Flow Rate, veh/h		-	
Peak	Hour Factor	0.96		Total Trucks, %		2.00	
Segr	nent Capacity, veh/h	1700		Demand/Capacity	(D/C)	0.19	
Inte	ermediate Results						
Segr	nent Vertical Class	1		Free-Flow Speed,	mi/h	51.0	
Spee	d Slope Coefficient	3.32347		Speed Power Coe	fficient	0.41674	
PF SI	ope Coefficient	-1.36191		PF Power Coeffici	ent	0.73576	
In Pa	ssing Lane Effective Length?	No		Total Segment De	nsity, veh/mi/ln	3.0	
%lm	proved % Followers	0.0		% Improved Avg	Speed	0.0	
Sub	osegment Data						
#	Segment Type	Length, ft	Rac	dius, ft	Superelevation, %	Average Speed, mi/h	
1	Tangent	5280	-		-	49.2	
Ver	icle Results						
Aver	Average Speed, mi/h 49.2 Pe				, %	45.2	
Segr	nent Travel Time, minutes	1.22		Followers Density	, followers/mi/ln	3.0	
Vehi	cle LOS	В					
Copyright © 2020 University of Florida. All Rights Reserved. HCSTMI Two-Lane Version 7.8 Generated: 12/06/2020 21-5							

6_Silverado Trail – South of Lodi Lane (SB) – Friday PM – E+P.xuf

			HCS7 Two-L	ane	High	vay Re	eport		
Pre	oject Infor	mation							
Ana	ilyst		КТ		Date			6/2/2021	
Age	ency		W-Trans		Analysis	Year		2021	
Juri	sdiction		County of Napa		Time Per	iod Analy	zed	Saturday PM Existing plus Project	
Pro	ject Descriptio	n	SR 29 – North of Lod (NB) – Saturday PM	i Lane	Unit			United States Customary	
			S	Segn	nent 1				
Ve	hicle Inpu	ts							
Seg	ment Type		Passing Constrained		Length,	ft		5280	
Lan	e Width, ft		12		Shoulde	er Width, ft		6	
Spe	ed Limit, mi/h		50		Access P	oint Dens	ity, pts/mi	4.0	
De	mand and	Capacity							
Dire	ectional Dema	nd Flow Rate, veh/h	730		Opposin	g Deman	d Flow Rate, veh/h	-	
Pea	Peak Hour Factor		0.96		Total Tru	cks, %		2.00	
Seg	ment Capacity	r, veh/h	1700		Demand	emand/Capacity (D/C)		0.43	
Int	ermediate	Results							
Seg	ment Vertical	Class	1		Free-Flow Speed, mi/h 55.9			55.9	
Spe	ed Slope Coef	ficient	3.59176		Speed P	ed Power Coefficient		0.41674	
PF S	Slope Coefficie	nt	-1.32959		PF Power Coefficient		ent	0.74990	
In P	assing Lane Ef	fective Length?	No		Total Segment Density, veh/mi/ln		nsity, veh/mi/ln	9.0	
%In	nproved % Fol	lowers	0.0		% Impro	ved Avg S	Speed	0.0	
Su	bsegment	Data							
#	Segment Ty	ре	Length, ft	Rad	lius, ft		Superelevation, %	Average Speed, mi/h	
1	Tangent		5280	-			-	53.0	
Ve	hicle Resu	lts							
Average Speed, mi/h 53.0 Percent Followers, % 65.0						65.0			
Segment Travel Time, minutes 1.13			Follower	Density,	followers/mi/ln	9.0			
Veh	Vehicle LOS C								
Fa	cility Resu	lts							
<u> </u>	т	Follower	Density, followers/mi	/ln			LC	0.74990 9.0 0.0 Average Speed, mi/h 53.0 65.0 9.0 9.0	
	1		9.0				(
Copyright © 2021 University of Florida. All Rights Reserved. HCSTM Tw			a Two-L	ane Version	7.9	.9 Generated: 05/31/2021 18:28:20			

HCS 100 Two-Lane Version 7.9 1_SR 29 - North of Lodi Lane (NB) - Saturday PM - E+P.xuf

	HCS7 Two-La	ane	Highv	vay Re	eport			
Project Information								
Analyst	KT		Date			6/2/2021		
Agency	W-Trans		Analysis '	Year		2021		
Jurisdiction	County of Napa		Time Per	iod Analy	zed	Saturday PM Existing plus Project		
Project Description	SR 29 – North of Lodi (SB) – Saturday PM	Lane	Unit			United States Customary		
	S	egm	nent 1					
Vehicle Inputs								
Segment Type	Passing Constrained		Length, f	t		5280		
Lane Width, ft	12		Shoulder	Width, ft	:	6		
Speed Limit, mi/h	50		Access Po	oint Dens	ity, pts/mi	/mi 10.0		
Demand and Capacity								
Directional Demand Flow Rate, veh/h	706		Opposing	g Deman	d Flow Rate, veh/h	-		
Peak Hour Factor	0.96		Total True	cks, %		2.00		
Segment Capacity, veh/h	1700		Total Trucks, % Demand/Capacity (D/C)		(D/C)	0.42		
Intermediate Results								
Segment Vertical Class	1		Free-Flov	v Speed,	mi/h	54.4		
Speed Slope Coefficient	3.51046		Speed Pc	Free-Flow Speed, mi/h 54.4 Speed Power Coefficient 0.41674		0.41674		
PF Slope Coefficient	-1.34026		PF Power	Coefficie	ent	0.74575		
In Passing Lane Effective Length?	No		Total Seg	ment De	nsity, veh/mi/ln	8.8		
%Improved % Followers	0.0		% Improv	ved Avg S	peed	0.0		
Subsegment Data								
# Segment Type	Length, ft	Rad	ius, ft		Superelevation, %	Average Speed, mi/h		
1 Tangent	5280	-			-	51.6		
Vehicle Results								
Average Speed, mi/h	51.6		Percent F	ollowers,	%	64.4		
Segment Travel Time, minutes 1.16 Follower Density, followers/mi/ln 8.8						8.8		
Vehicle LOS C								
Facility Results	1							
T Follower	Density, followers/mi/	In			LO	S		
1	8.8				C			
Copyright © 2021 University of Florida. All Rights	Reserved. HCSTM 1_SR 29 – North of Loc	Two-La di Lane	ane Version (SB) – Satur	7.9 day PM – E	+P.xuf	Generated: 05/31/2021 18:29:55		

	HCS7 Two-Lane Highway Report									
Pr	oject Infor	mation								
Ana	alyst		КТ		Date			6/2/2021		
Age	ency		W-Trans		Analysis	Year		2021		
Juri	sdiction		County of Napa		Time Per	iod Analy	zed	Saturday PM Existing plus Project		
Pro	ject Descriptio	n	SR 29 – South of I (NB) – Saturday P	Lodi Lane M	Unit			United States Customary		
				Segn	nent 1					
Ve	hicle Inpu	ts								
Seg	jment Type		Passing Constrain	ed	Length, t	ft		5280		
Lan	Lane Width, ft		12		Shoulde	r Width, f	t	6		
Spe	ed Limit, mi/h		50		Access P	oint Dens	iity, pts/mi	4.0		
Demand and Capacity										
Directional Demand Flow Rate, veh/h		740		Opposing Demand Flow Rate, veh/h			-			
Pea	k Hour Factor		0.96	0.96		cks, %		2.00		
Segment Capacity, veh/h		1700		Demand	/Capacity	(D/C)	0.44			
Int	termediate	Results						-		
Seg	ment Vertical	Class	1	1		w Speed,	mi/h	55.9		
Spe	ed Slope Coef	ficient	3.59176		Speed P	ower Coe	fficient	0.41674		
PF S	Slope Coefficie	nt	-1.32959	-1.32959		PF Power Coefficient		0.74990		
In F	Passing Lane Ef	fective Length?	No		Total Segment Density, veh/mi/ln		nsity, veh/mi/ln	9.1		
%In	nproved % Fol	lowers	0.0		% Improved Avg Speed			0.0		
Su	bsegment	Data								
#	Segment Ty	pe	Length, ft	Rac	lius, ft		Superelevation, %	Average Speed, mi/h		
1	Tangent		5280	-			-	53.0		
Ve	hicle Resu	lts								
Ave	erage Speed, m	ii/h	53.0		Percent	Followers,	. %	65.4		
Segment Travel Time, minutes 1.13			1.13		Follower	Density,	followers/mi/ln	9.1		
Veh	nicle LOS		С							
Fa	cility Resu	lts								
T Follower Density, followers/mi/In			LOS							
	1		9.1		C					
Copy	right © 2021 Uni	versity of Florida. All Rights	Reserved. HO	CS1100 Two-L	ane Version	7.9	Ine Version 7.9 Generated: 05/31/2021 18:31:			

HCS 100 Two-Lane Version 7.9 2_SR 29 - South of Lodi Lane (NB) - Saturday PM - E+P.xuf

			HCS7 Two-l	ane	High	way R	eport	
Pro	oject Infor	mation						
Ana	lyst		КТ		Date			6/2/2021
Age	ency		W-Trans		Analysis	Year		2021
Juri	sdiction		County of Napa		Time Per	riod Analy	zed	Saturday PM Existing plus Project
Proj	Project Description		SR 29 – South of Loc (SB) – Saturday PM	di Lane	Unit			United States Customary
			:	Segn	nent 1			
Ve	hicle Inpu	ts						
Seg	ment Type		Passing Constrained		Length,	ft		5280
Lan	e Width, ft		12		Shoulde	r Width, f	t	6
Spe	ed Limit, mi/h		50		Access P	oint Dens	sity, pts/mi	10.0
Demand and Capacity								-
Directional Demand Flow Rate, veh/h		717		Opposing Demand Flow Rate, veh/h			-	
Peak Hour Factor		0.96		Total Tru	cks, %		2.00	
Segment Capacity, veh/h		1700		Demand	/Capacity	r (D/C)	0.42	
Int	ermediate	Results	-					
Seg	ment Vertical	Class	1	_	Free-Flo	w Speed,	mi/h	54.4
Spe	ed Slope Coef	ficient	3.51046		Speed P	ower Coe	fficient	0.41674
PF S	Slope Coefficie	ent	-1.34026		PF Power Coefficient		ent	0.74575
In P	assing Lane Ef	fective Length?	No		Total Segment Density, veh/mi/ln		nsity, veh/mi/ln	9.0
%ln	nproved % Fol	lowers	0.0		% Improved Avg Speed		Speed	0.0
Su	bsegment	Data	·					-
#	Segment Ty	pe	Length, ft	Rac	lius, ft		Superelevation, %	Average Speed, mi/h
1	Tangent		5280	-			-	51.6
Ve	hicle Resu	lts						
Ave	rage Speed, m	ni/h	51.6		Percent	Followers	, %	64.8
Seg	ment Travel Ti	me, minutes	1.16		Follower	Density,	followers/mi/ln	9.0
Veh	icle LOS		С					
Fac	cility Resu	lts						
	T Follower Density, followers/mi/In			LOS			s	
	1		9.0		С			
Copyright © 2021 University of Florida. All Rights Reserved. HCSTM Two-Lan				ane Version 7.9 Generated: 05/31/2021 18:32:0'				

2_SR 29 - South of Lodi Lane (SB) - Saturday PM - E+P.xuf

		HCS7 Two	o-Lane	High	vay Re	eport	
Project Informati	on						
Analyst		КТ		Date			6/2/2021
Agency		W-Trans		Analysis	Year		2021
Jurisdiction		County of Napa		Time Per	iod Analy	zed	Saturday PM Existing plus Project
Project Description	Project Description Lodi Ln – West of Project Driveway (EB) – Saturday PM		of Project Saturday	Unit			United States Customary
			Segn	nent 1			
Vehicle Inputs							
Segment Type	Passing Constrai	ined	Length,	ít		5280	
Lane Width, ft		14		Shoulde	r Width, ft	t	0
Speed Limit, mi/h	45		Access P	oint Dens	ity, pts/mi	11.0	
Demand and Cap	acity						·
Directional Demand Flov	53		Opposin	g Demano	d Flow Rate, veh/h	-	
Peak Hour Factor		0.96		Total Tru	cks, %		2.00
Segment Capacity, veh/ł	า	1700		Demand	/Capacity	(D/C)	0.03
Intermediate Res	ults	·					
Segment Vertical Class		1		Free-Flow Speed, mi/h			45.5
Speed Slope Coefficient		3.02537		Speed P	ower Coef	fficient	0.41674
PF Slope Coefficient		-1.38653		PF Power Coefficient		ent	0.71808
In Passing Lane Effective	Length?	No		Total Segment Density, veh/mi/ln		nsity, veh/mi/ln	0.2
%Improved % Followers		0.0		% Impro	ved Avg S	speed	0.0
Subsegment Data	a	·					
# Segment Type		Length, ft	Rac	lius, ft		Superelevation, %	Average Speed, mi/h
1 Tangent		5280	-			-	45.5
Vehicle Results							-
Average Speed, mi/h		45.5		Percent	ollowers,	%	15.5
Segment Travel Time, minutes 1.32				Follower	Density, f	followers/mi/ln	0.2
Vehicle LOS		A					
Facility Results							
т	Follower	Density, follower	rs/mi/ln	LOS)S
1		0.2			A		
Copyright © 2021 University of Florida All Rights Reserved HCSTM Two-La			HCS1000 Two-L	ane Version	7.9		Generated: 05/31/2021 18:32:5

Reserved. HCS1100 Two-Lane Version 7.9 3_Lodi Ln – West of Project Driveway (EB) – Saturday PM – E+P.xuf Copyright © 2021 University of Florida. All Rights Reserved.

_								
			HCS7 Two-	Lane	Highv	vay Re	eport	
Pro	ject Infor	mation						
Anal	yst		КТ		Date			6/2/2021
Ager	псу		W-Trans		Analysis	alysis Year		2021
uris	diction		County of Napa		Time Per	iod Analy	zed	Saturday PM Existing plus Project
Proje	iect Description Lodi Ln – West of Project Driveway (WB) – Saturday PM		roject turday	Unit			United States Customary	
				Segn	nent 1			
/eh	icle Input	s						
Segn	nent Type		Passing Constrained	ł	Length, f	t		5280
.ane	Width, ft		14		Shoulder	Width, ft	:	0
Speed Limit, mi/h			45		Access P	oint Dens	ity, pts/mi	10.0
Der	mand and	Capacity						-
Directional Demand Flow Rate, veh/h 57			57		Opposing Demand Fl		d Flow Rate, veh/h	-
Peak	Hour Factor		0.96		Total True	cks, %		2.00
Segn	nent Capacity,	veh/h	1700		Demand,	/Capacity	(D/C)	0.03
nte	ermediate	Results						
Segn	nent Vertical C	lass	1		Free-Flov	v Speed,	mi/h	45.7
spee	d Slope Coeff	icient	3.03892		Speed Po	ower Coef	ficient	0.41674
PF SI	ope Coefficier	nt	-1.38571		PF Power Coefficient			0.71894
n Pa	ssing Lane Eff	ective Length?	No		Total Segment Density, veh/mi/ln			0.2
6lm	proved % Foll	owers	0.0		% Improv	ved Avg S	peed	0.0
Sub	osegment	Data						
ŧ	Segment Typ	be	Length, ft	Rad	lius, ft		Superelevation, %	Average Speed, mi/h
l	Tangent		5280	-			-	45.7
/eh	icle Resul	ts						
Aver	age Speed, mi	i/h	45.7		Percent F	ollowers,	%	16.3
Segn	nent Travel Tir	ne, minutes	1.31		Follower	Density,	followers/mi/In	0.2
/ehio	cle LOS		A					
ac	ility Resul	ts						
	т	Follower	Density, followers/n	ni/In		LOS		
	1		0.2				А	
ppyright © 2021 University of Florida. All Rights Reserved. HCSTMI Two				ซผ Two-L	ane Version	e Version 7.9 Generated: 05/31/20.		

 Reserved.
 HCS 100 Two-Lane Version 7.9

 3_Lodi Ln – West of Project Driveway (WB) – Saturday PM – E+P.xuf
 Copyright © 2021 University of Florida. All Rights Reserved.

		HCS7 Two	o-Lane	High	vay Re	eport	
Project Info	ormation						
Analyst		КТ		Date			6/2/2021
Agency		W-Trans		Analysis	Year		2021
Jurisdiction		County of Napa		Time Per	iod Analy	zed	Saturday PM Existing plus Project
Project Descript	roject Description Lodi Ln – East of Project U Driveway (EB) – Saturday PM		Unit			United States Customary	
			Segn	nent 1			
Vehicle Inp	uts						
Segment Type		Passing Constrai	ned	Length,	ft		5280
Lane Width, ft		14		Shoulde	r Width, ft	:	0
Speed Limit, mi,	'n	45		Access P	oint Dens	ity, pts/mi	0.0
Demand an	d Capacity	-					
Directional Dem	and Flow Rate, veh/h	56		Opposin	g Deman	d Flow Rate, veh/h	-
Peak Hour Facto	r	0.91		Total Tru	cks, %		3.00
Segment Capac	ty, veh/h	1700		Demand	/Capacity	(D/C)	0.03
Intermedia	te Results						
Segment Vertica	l Class	1		Free-Flow Speed, mi/h			48.2
Speed Slope Co	efficient	3.17262		Speed P	ower Coet	fficient	0.41674
PF Slope Coeffic	ient	-1.37591		PF Power Coefficient		ent	0.72726
In Passing Lane	Effective Length?	No		Total Seg	Total Segment Density, veh/mi/ln		0.2
%Improved % F	ollowers	0.0		% Impro	ved Avg S	speed	0.0
Subsegmer	nt Data						·
# Segment	Гуре	Length, ft	Rac	lius, ft		Superelevation, %	Average Speed, mi/h
1 Tangent		5280	-			-	48.2
Vehicle Res	ults						-
Average Speed,	mi/h	48.2		Percent	Followers,	%	15.6
Segment Travel Time, minutes 1.24				Follower	Density,	followers/mi/ln	0.2
Vehicle LOS		A					
Facility Res	ults						
т	Followe	r Density, follower	s/mi/ln		LOS		
1		0.2		A			۱ <u> </u>
Copyright © 2021 University of Florida. All Rights Reserved. HCS100 Two-Lan			ane Version	7.9		Generated: 05/31/2021 18:34:34	

Copyright © 2021 University of Florida. All Rights Reserved. HCS100 Two-Lane Version 7.9 4_Lodi Ln – East of Project Driveway (EB) – Saturday PM – E+P.xuf

		HCS7 Two-L	ane	Highv	vay Re	eport	
Project Infor	mation						
Analyst		КТ		Date			6/2/2021
Agency		W-Trans		Analysis Year			2021
Jurisdiction		County of Napa		Time Per	iod Analy	zed	Saturday PM Existing plus Project
Project Description	ı	Lodi Ln – East of Proj Driveway (WB) – Satu PM	ect rday	Unit			United States Customary
		S	egm	ent 1			
Vehicle Input	s						
Segment Type		Passing Constrained		Length, f	ft		5280
Lane Width, ft		14		Shoulde	r Width, ft	:	0
Speed Limit, mi/h		45		Access P	oint Dens	ity, pts/mi	0.0
Demand and Capacity							
Directional Demar	nd Flow Rate, veh/h	70		Opposing Demand Flow Rate, veh/h		d Flow Rate, veh/h	-
Peak Hour Factor		0.91		Total Tru	cks, %		3.00
Segment Capacity	, veh/h	1700		Demand	/Capacity	(D/C)	0.04
Intermediate	Results						
Segment Vertical	Class	1		Free-Flo	w Speed, i	mi/h	48.2
Speed Slope Coef	ficient	3.17262		Speed Po	ower Coef	ficient	0.41674
PF Slope Coefficie	nt	-1.37591		PF Power Coefficient		nt	0.72726
In Passing Lane Eff	fective Length?	No		Total Segment Density, veh/mi/ln		nsity, veh/mi/ln	0.3
%Improved % Foll	owers	0.0		% Impro	ved Avg S	peed	0.0
Subsegment	Data						
# Segment Typ	ce	Length, ft	Radi	ius, ft		Superelevation, %	Average Speed, mi/h
1 Tangent		5280	-			-	48.2
Vehicle Resul	ts						
Average Speed, m	i/h	48.2		Percent I	Followers,	%	18.1
Segment Travel Time, minutes 1.		1.24		Follower	Density, f	ollowers/mi/In	0.3
Vehicle LOS A							
Facility Resul	ts						
т	Follower	Density, followers/mi	/In		LOS		
1		0.3				А	
Copyright © 2021 Univ	ersity of Florida. All Rights R	eserved. HCST	Two-La	ne Version	/ersion 7.9 Generated: 05/31/2021 18:35:20		

Copyright © 2021 University of Florida. All Rights Reserved. HCS100 Two-Lane Version 7.9 4_Lodi Ln – East of Project Driveway (WB) – Saturday PM – E+P.xuf

	HCS7 Two-Lane Highway Report								
Proje	ct Information								
Analyst		KT		Date			6/2/2021		
Agency	,	W-Trans		Analysis	Analysis Year		2021		
Jurisdic	tion	County of Napa		Time Per	iod Analy	zed	Saturday PM Existing plus Project		
Project	Description	Silverado Trail – N Lodi Lane (NB) – S PM	Silverado Trail – North of Lodi Lane (NB) – Saturday PM		Unit		United States Customary		
			Segn	nent 1					
Vehic	le Inputs								
Segmer	nt Type	Passing Constraine	ed	Length, f	t		5280		
Lane W	'idth, ft	12		Shoulder	Width, ft	:	6		
Speed L	Limit, mi/h	45		Access P	oint Dens	ity, pts/mi	5.0		
Dema	and and Capacity	-					·		
Directio	onal Demand Flow Rate, v	eh/h 342	342		g Demano	d Flow Rate, veh/h	-		
Peak Ho	our Factor	0.91		Total Tru	cks, %		3.00		
Segmer	nt Capacity, veh/h	1700		Demand	/Capacity	(D/C)	0.20		
Interi	mediate Results								
Segmer	nt Vertical Class	1		Free-Flov	w Speed,	mi/h	50.0		
Speed S	Slope Coefficient	3.26747	3.26747		ower Coef	ficient	0.41674		
PF Slop	e Coefficient	-1.36740	-1.36740		r Coefficie	ent	0.73276		
In Passi	ng Lane Effective Length?	No		Total Seg	tal Segment Density, veh/mi/ln		3.3		
%Impro	oved % Followers	0.0		% Impro	ved Avg S	peed	0.0		
Subse	egment Data								
# S	egment Type	Length, ft	Rac	lius, ft		Superelevation, %	Average Speed, mi/h		
1 Ta	angent	5280	-			-	48.1		
Vehic	le Results	·				<u> </u>			
Average	e Speed, mi/h	48.1		Percent F	ollowers,	%	46.3		
Segmer	Segment Travel Time, minutes 1.25			Follower Density, followers/mi/ln 3.3			3.3		
Vehicle	LOS	В							
Facili	ty Results								
	T F	ollower Density, followers/	/mi/ln		LOS				
	1	3.3				E			
Copyright	© 2021 University of Florida.	All Rights Reserved. HC	STM Two-L	ane Version	7.9		Generated: 05/31/2021 18:36:07		

Copyright © 2021 University of Florida. All Rights Reserved. HCS1990 Two-Lane Version 7.9 5_Silverado Trail – North of Lodi Lane (NB) – Saturday PM – E+P.xuf

	HCS7 Two-La	ne Hig	hway R	eport			
Project Information							
Analyst	KT	Date			6/2/2021		
Agency	W-Trans	Analy	Analysis Year		2021		
Jurisdiction	County of Napa	Time	Period Analy	zed	Saturday PM Existing plus Project		
Project Description	Silverado Trail – North Lodi Lane (SB) – Saturo PM	of Unit Jay	Unit		United States Customary		
	Se	egment	1				
Vehicle Inputs							
Segment Type	Passing Constrained	Lengt	h, ft		5280		
Lane Width, ft	12	Shou	der Width, f	t	6		
Speed Limit, mi/h	45	Acces	s Point Dens	sity, pts/mi	1.0		
Demand and Capacity							
Directional Demand Flow Rate, veh/h	313	Oppo	sing Deman	d Flow Rate, veh/h	-		
Peak Hour Factor	0.91	Total	Trucks, %		3.00		
Segment Capacity, veh/h	1700	Dema	ind/Capacity	r (D/C)	0.18		
Intermediate Results							
Segment Vertical Class	1	Free-	Flow Speed,	mi/h	51.0		
Speed Slope Coefficient	3.32167	Speed	d Power Coe	fficient	0.41674		
PF Slope Coefficient	-1.36197	PF Po	wer Coeffici	ent	0.73580		
In Passing Lane Effective Length?	No	Total	Total Segment Density, veh/mi/ln		2.8		
%Improved % Followers	0.0	% Im	proved Avg	Speed	0.0		
Subsegment Data					·		
# Segment Type	Length, ft	Radius, ft		Superelevation, %	Average Speed, mi/h		
1 Tangent	5280	-		-	49.2		
Vehicle Results							
Average Speed, mi/h	49.2	Perce	nt Followers	, %	44.0		
Segment Travel Time, minutes	Segment Travel Time, minutes 1.22			followers/mi/ln	2.8		
Vehicle LOS	В						
Facility Results							
T Follower Density, followers/mi/ln			LOS				
1	2.8			E			
Copyright © 2021 University of Florida. All Rights	Reserved. HCSTM	Two-Lane Vers	ion 7.9		Generated: 05/31/2021 18:36:39		

© 2021 University of Florida. All Rights Reserved. HCSWW IWO-Lane Version 7.5 5_Silverado Trail – North of Lodi Lane (SB) – Saturday PM – E+P.xuf

		HCS7 Two	o-Lane	Highv	vay Re	eport	
Project Inf	formation						
Analyst		КТ		Date			6/2/2021
Agency		W-Trans		Analysis	Year		2021
Jurisdiction		County of Napa		Time Per	iod Analy	zed	Saturday PM Existing plus Project
Project Descrip	otion	Silverado Trail – Lodi Lane (NB) – PM	Silverado Trail – South of Un Lodi Lane (NB) – Saturday PM				United States Customary
			Segn	nent 1			
Vehicle In	puts						
Segment Type		Passing Constrai	ned	Length, f	ít		5280
Lane Width, ft		12		Shoulder	r Width, fl	:	6
Speed Limit, m	ii/h	45		Access P	oint Dens	ity, pts/mi	5.0
Demand a	nd Capacity						
Directional De	mand Flow Rate, veh/h	363		Opposin	g Deman	d Flow Rate, veh/h	-
Peak Hour Fac	tor	0.91		Total Tru	cks, %		3.00
Segment Capa	city, veh/h	1700		Demand	/Capacity	(D/C)	0.21
Intermedia	ate Results						
Segment Verti	cal Class	1		Free-Flow Speed, mi/h			50.0
Speed Slope C	oefficient	3.26747		Speed Po	ower Coet	ficient	0.41674
PF Slope Coeff	icient	-1.36740		PF Power Coefficient		ent	0.73276
In Passing Lan	e Effective Length?	No		Total Segment Density, veh/mi/ln		nsity, veh/mi/ln	3.6
%Improved %	Followers	0.0		% Impro	ved Avg S	ipeed	0.0
Subsegme	nt Data						
# Segmen	t Type	Length, ft	Rac	lius, ft		Superelevation, %	Average Speed, mi/h
1 Tangent		5280	-			-	48.1
Vehicle Re	sults	1					
Average Speed	d, mi/h	48.1		Percent I	ollowers,	%	47.8
Segment Travel Time, minutes 1.25				Follower	Density,	followers/mi/ln	3.6
Vehicle LOS	/ehicle LOS B						
Facility Re	sults						
т	Followe	Density, follower	s/mi/ln		LOS		
1		3.6			B		3
Copyright © 2021	University of Florida. All Rights	Reserved.	HCS1000 Two-L	ane Version	7.9		Generated: 05/31/2021 18:37:

 Reserved.
 HCS100 Two-Lane Version 7.9

 6_Silverado Trail – South of Lodi Lane (NB) – Saturday PM – E+P.xuf
 Copyright © 2021 University of Florida. All Rights Reserved.

		HCS7 Two-L	ane	Highv	vay Re	eport	
Project Info	mation						
Analyst		кт		Date			6/2/2021
gency		W-Trans		Analysis '	sis Year		2021
urisdiction		County of Napa		Time Peri	iod Analy	zed	Saturday PM Existing plus Project
Project Descriptio	Description Silverado Trail – South of Lodi Lane (SB) – Saturday PM		h of rday	Unit			United States Customary
		S	egn	nent 1			
/ehicle Inpu	ts						
egment Type		Passing Constrained	Length, f	t		5280	
ane Width, ft		12		Shoulder	Width, ft	:	6
ipeed Limit, mi/h		45		Access Po	oint Dens	ity, pts/mi	1.0
Demand and	l Capacity						
Directional Dema	nd Flow Rate, veh/h	316		Opposing Demand Flow Rate, ve		d Flow Rate, veh/h	-
Peak Hour Factor		0.91		Total True	cks, %		3.00
Segment Capacity	/, veh/h	1700		Demand,	/Capacity	(D/C)	0.19
ntermediate	e Results						
Segment Vertical	Class	1	Free-Flow Speed			mi/h	51.0
peed Slope Coe	ficient	3.32167		Speed Power Coefficient			0.41674
PF Slope Coefficie	ent	-1.36197		PF Power Coefficient			0.73580
n Passing Lane E	fective Length?	No		Total Segment Density, veh/mi/ln		nsity, veh/mi/ln	2.8
6Improved % Fol	lowers	0.0		% Improved Avg Speed			0.0
Subsegment	Data						
E Segment Ty	pe	Length, ft	Rad	lius, ft		Superelevation, %	Average Speed, mi/h
Tangent		5280	-			-	49.2
/ehicle Resu	lts						
Average Speed, n	ni/h	49.2		Percent F	ollowers,	%	44.2
egment Travel T	me, minutes	1.22		Follower	Density, f	followers/mi/ln	2.8
/ehicle LOS	hicle LOS B						
acility Resu	lts						
т	Follower	Density, followers/mi	/In		LOS		
1		2.8				В	
pyright © 2021 Uni	eserved. HCSTM	Two-L	ane Version	7.9		Generated: 05/31/2021 18:40:18	

Reserved. HCS1000 Two-Lane Version 7.9 6_Silverado Trail – South of Lodi Lane (SB) – Saturday PM – E+P.xuf Copyright © 2021 University of Florida. All Rights Reserved.

		HCS7 Two-Lar	ne Highway R	eport						
Pro	ject Information									
Anal	yst	КТ	Date		12/4/20					
Ager	су	W-Trans	Analysis Year		2020					
Juris	diction	County of Napa	Time Period Analy	/zed	Friday PM Baseline plus Project					
Proje	ect Description	SR 29 – North of Lodi La (NB) – Friday PM	ane Unit		United States Customary					
	Segment 1									
Veh	icle Inputs									
Segr	nent Type	Passing Constrained	Length, ft		5280					
Lane	Width, ft	12	Shoulder Width, f	t	6					
Spee	d Limit, mi/h	50	Access Point Den	sity, pts/mi	4.0					
Der	mand and Capacity									
Direc	tional Demand Flow Rate, veh/h	743	Opposing Deman	d Flow Rate, veh/h	-					
Peak	Hour Factor	0.96	Total Trucks, %		4.00					
Segr	nent Capacity, veh/h	1700	Demand/Capacity	/ (D/C)	0.44					
Inte	ermediate Results									
Segn	nent Vertical Class	1	Free-Flow Speed,	mi/h	55.9					
Spee	d Slope Coefficient	3.58815	Speed Power Coe	fficient	0.41674					
PF SI	ope Coefficient	-1.32983	PF Power Coeffici	ent	0.75000					
In Pa	ssing Lane Effective Length?	No	Total Segment De	nsity, veh/mi/ln	9.2					
%lm	proved % Followers	0.0	% Improved Avg	Speed	0.0					
Suk	osegment Data									
#	Segment Type	Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h					
1	Tangent	5280	-	-	52.9					
Veh	icle Results									
Aver	age Speed, mi/h	Percent Followers	, %	65.5						
Segn	nent Travel Time, minutes	1.13	Followers Density	, followers/mi/ln	9.2					
Vehi	le LOS	С								
Copyri	aht © 2020 University of Florida. All Rights	Reserved. HCSTN Tv	vo-Lane Version 7.8		Generated: 12/06/2020 22:01:55					

Copyright © 2020 University of Florida. All Rights Reserved. HCS100 Two-Lane Version 7.8 1_SR 29 – North of Lodi Lane (NB) – Friday PM – B+P.xuf

		HCS/ Iwo-Lar	ne Highway R	eport	
Pro	ject Information				
Anal	yst	КТ	Date		12/4/2020
Age	псу	W-Trans	Analysis Year		2020
Juris	diction	County of Napa	Time Period Analy	yzed	Friday PM Baseline plus Project
Project Description		SR 29 – North of Lodi La (SB) – Friday PM	ine Unit		United States Customary
		Se	gment 1		
Veł	nicle Inputs				
Segr	nent Type	Passing Constrained	Length, ft		5280
Lane	Width, ft	12	Shoulder Width, f	it	6
Spee	ed Limit, mi/h	50	Access Point Den	sity, pts/mi	10.0
De	mand and Capacity				
Dire	ctional Demand Flow Rate, veh/h	680	Opposing Deman	nd Flow Rate, veh/h	-
Peak	Hour Factor	0.96	Total Trucks, %		4.00
Segr	nent Capacity, veh/h	1700	Demand/Capacity	/ (D/C)	0.40
Int	ermediate Results				
Segr	nent Vertical Class	1	Free-Flow Speed,	mi/h	54.4
Spee	ed Slope Coefficient	3.50685	Speed Power Coe	fficient	0.41674
PF S	lope Coefficient	-1.34047	PF Power Coeffici	ent	0.74585
In Pa	assing Lane Effective Length?	No	Total Segment De	ensity, veh/mi/ln	8.4
%lm	proved % Followers	0.0	% Improved Avg	Speed	0.0
Sul	osegment Data				
#	Segment Type	Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	5280	-	-	51.6
Veł	nicle Results				
Aver	age Speed, mi/h	Percent Followers	5, %	63.4	
Segr	nent Travel Time, minutes	Followers Density	, followers/mi/ln	8.4	
Vehi	cle LOS	С			
Copyri	ght © 2020 University of Florida. All Right	s Reserved. HCS1000 Tv	vo-Lane Version 7.8		Generated: 12/06/2020 22:02:26

HCS1000 Two-Lane Version 7.8
 1_SR 29 – North of Lodi Lane (SB) – Friday PM – B+P.xuf

		HCS7 Two-Lai	ne Highway R	eport				
Pro	ject Information							
Anal	yst	КТ	Date		12/4/2020			
Ager	псу	W-Trans	Analysis Year		2020			
Juris	diction	County of Napa	Time Period Analy	yzed	Friday PM Baseline plus Project			
Project Description		SR 29 – South of Lodi La (NB) – Friday PM	ane Unit		United States Customary			
		Se	gment 1					
Veł	icle Inputs							
Segr	nent Type	Passing Constrained	Length, ft		5280			
Lane	Width, ft	12	Shoulder Width, f	t	6			
Speed Limit, mi/h		50	Access Point Den	sity, pts/mi	4.0			
Der	nand and Capacity							
Direc	tional Demand Flow Rate, veh/h	747	Opposing Deman	d Flow Rate, veh/h	-			
Peak	Hour Factor	0.96	Total Trucks, %		4.00			
Segr	nent Capacity, veh/h	1700	Demand/Capacity	/ (D/C)	0.44			
Inte	ermediate Results							
Segn	nent Vertical Class	1	Free-Flow Speed,	mi/h	55.9			
Spee	d Slope Coefficient	3.58815	Speed Power Coe	fficient	0.41674			
PF SI	ope Coefficient	-1.32983	PF Power Coeffici	ent	0.75000			
In Pa	ssing Lane Effective Length?	No	Total Segment De	ensity, veh/mi/ln	9.3			
%lm	proved % Followers	0.0	% Improved Avg	Speed	0.0			
Suk	osegment Data							
#	Segment Type	Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h			
1	Tangent	5280	-	-	52.9			
Veh	icle Results							
Aver	age Speed, mi/h	52.9	Percent Followers	, %	65.6			
Segn	nent Travel Time, minutes	1.13	Followers Density	, followers/mi/ln	9.3			
Vehi	cle LOS	С						
opyri	opyright © 2020 University of Florida. All Rights Reserved. HCS 100 Two-Lane Version 7.8 Generated: 12/06/2020 22:02:55							

Copyright © 2020 University of Florida. All Rights Reserved. HCS100 Two-Lane Version 7.8 2_SR 29 – South of Lodi Lane (NB) – Friday PM – B+P.xuf

		HCS7 Two-La	ne Highw	vay Re	eport			
Pro	ject Information							
Ana	yst	KT	Date			12/4/2020		
Age	ncy	W-Trans	Analysis Y	'ear		2020		
Juris	diction	County of Napa	Time Perio	od Analy	zed	Friday PM Baseline plus Project		
Project Description		SR 29 – South of Lodi Li (SB) – Friday PM	ane Unit	Unit		United States Customary		
		Se	gment 1					
Vel	nicle Inputs							
Seg	ment Type	Passing Constrained	Length, ft			5280		
Lane	e Width, ft	12	Shoulder	Width, ft	:	6		
Spee	ed Limit, mi/h	50	Access Po	int Dens	ity, pts/mi	10.0		
De	mand and Capacity							
Directional Demand Flow Rate, veh/h		746	Opposing	Deman	d Flow Rate, veh/h	-		
Peak	Hour Factor	0.96	Total Truc	ks, %		4.00		
Seg	ment Capacity, veh/h	1700	Demand/	Capacity	(D/C)	0.44		
Int	ermediate Results							
Seg	ment Vertical Class	1	Free-Flow	Speed,	mi/h	54.4		
Spee	ed Slope Coefficient	3.50685	Speed Por	wer Coef	ficient	0.41674		
PF S	lope Coefficient	-1.34047	PF Power	PF Power Coefficient		0.74585		
In Pa	assing Lane Effective Length?	No	Total Segr	ment De	nsity, veh/mi/ln	9.6		
%lm	proved % Followers	0.0	% Improv	ed Avg S	peed	0.0		
Sul	osegment Data							
#	Segment Type	Length, ft	Radius, ft		Superelevation, %	Average Speed, mi/h		
1	Tangent	5280	-		-	51.4		
Vel	nicle Results							
Ave	age Speed, mi/h	51.4	Percent Fo	ollowers,	%	65.9		
Seg	ment Travel Time, minutes	1.17	Followers	Density,	followers/mi/ln	9.6		
Vehi	cle LOS	С						
Copyr	pyright © 2020 University of Florida. All Rights Reserved. HCS100 Two-Lane Version 7.8 Generated: 12/06/2020 22:03:23							

2_SR 29 - South of Lodi Lane (SB) - Friday PM - B+P.xuf

		HCS7 Two-La	ane F	Highway Re	eport				
Pro	ject Information								
Analyst KT			1	Date		12/4/2020			
Ager	псу	W-Trans	/	Analysis Year		2020			
Juris	diction	County of Napa	1	Time Period Analy	zed	Friday PM Baseline plus Project			
Project Description		Lodi Ln – West of Proje Driveway (EB) – Friday	ect l PM	Unit		United States Customary			
Segment 1									
Veł	icle Inputs								
Segr	nent Type	Passing Constrained	I	Length, ft		5280			
Lane	Width, ft	14	9	Shoulder Width, fi	:	0			
Spee	d Limit, mi/h	45		Access Point Dens	ity, pts/mi	11.0			
Der	nand and Capacity								
Direc	tional Demand Flow Rate, veh/h	77	(Opposing Deman	d Flow Rate, veh/h	-			
Peak	Hour Factor	0.96	1	Total Trucks, %		4.00			
Segr	nent Capacity, veh/h	1700	[Demand/Capacity	(D/C)	0.05			
Inte	ermediate Results								
Segn	nent Vertical Class	1	F	Free-Flow Speed,	mi/h	45.4			
Spee	d Slope Coefficient	3.02176	9	Speed Power Coefficient		0.41674			
PF SI	ope Coefficient	-1.38649	1	PF Power Coefficient		0.71813			
In Pa	ssing Lane Effective Length?	No	1	Total Segment De	nsity, veh/mi/ln	0.3			
%lm	proved % Followers	0.0	9	% Improved Avg Speed		0.0			
Suk	osegment Data								
#	Segment Type	Length, ft	Radiu	us, ft	Superelevation, %	Average Speed, mi/h			
1	Tangent	5280	-		-	45.4			
Veł	icle Results								
Aver	age Speed, mi/h	45.4	F	Percent Followers,	%	19.8			
Segn	nent Travel Time, minutes	1.32	F	Followers Density,	followers/mi/ln	0.3			
Vehi	cle LOS	A							
Copyri	aht © 2020 University of Florida. All Right	s Reserved. HCS 100	Two-Lan	ne Version 7.8		Generated: 12/06/2020 22:04			

Copyright © 2020 University of Florida. All Rights Reserved. HCS1001 Two-Lane Version 7.8 3_Lodi Ln – West of Project Driveway (EB) – Friday PM – B+P.xuf

		HCS7 Two-L	.ane	e Highway Re	eport	
Pro	oject Information					
Anal	lyst	КТ		Date		12/4/2020
Age	ncy	W-Trans		Analysis Year		2020
Juris	diction	County of Napa		Time Period Analy	zed	Friday PM Baseline plus Project
Project Description		Lodi Ln – West of Project Driveway (WB) – Friday PM		Unit		United States Customary
		S	Segn	nent 1		
Veł	nicle Inputs					
Segr	ment Type	Passing Constrained		Length, ft		5280
Lane	e Width, ft	14		Shoulder Width, f	t	0
Speed Limit, mi/h		45		Access Point Dens	iity, pts/mi	10.0
De	mand and Capacity					
Directional Demand Flow Rate, veh/h		139		Opposing Deman	d Flow Rate, veh/h	-
Peak	Hour Factor	0.96		Total Trucks, %		4.00
Segr	ment Capacity, veh/h	1700		Demand/Capacity	r (D/C)	0.08
Int	ermediate Results					
Segr	ment Vertical Class	1		Free-Flow Speed,	mi/h	45.7
Spee	ed Slope Coefficient	3.03531		Speed Power Coefficient		0.41674
PF S	lope Coefficient	-1.38568		PF Power Coefficient		0.71899
In Pa	assing Lane Effective Length?	No		Total Segment De	nsity, veh/mi/ln	0.9
%lm	proved % Followers	0.0		% Improved Avg	Speed	0.0
Sul	bsegment Data					
#	Segment Type	Length, ft	Rad	dius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	5280	-		-	44.9
Veł	nicle Results					
Aver	rage Speed, mi/h	44.9		Percent Followers	, %	28.4
Segr	ment Travel Time, minutes	1.34		Followers Density	followers/mi/In	0.9
Vehi	cle LOS	A				
Copyri	ight © 2020 University of Florida. All Rights	s Reserved. HCST	ຝ Two-L	Lane Version 7.8		Generated: 12/06/2020 22:04:54

3_Lodi Ln - West of Project Driveway (WB) - Friday PM - B+P.xuf

	HCS7 Two-Lane Highway Report									
Pro	Project Information									
Anal	yst	Date		12/4/2020						
Ager	псу	W-Trans	Analysis Year		2020					
Juris	diction	County of Napa	Time Period Anal	yzed	Friday PM Baseline plus Project					
Project Description		Lodi Ln – East of Project Driveway (EB) – Friday F	t Unit PM		United States Customary					
	Segment 1									
Veł	nicle Inputs									
Segr	nent Type	Passing Constrained	Length, ft		5280					
Lane	Width, ft	14	Shoulder Width,	ft	0					
Spee	ed Limit, mi/h	45	Access Point Den	sity, pts/mi	11.0					
Dei	mand and Capacity									
Dire	ctional Demand Flow Rate, veh/h	91	Opposing Demar	nd Flow Rate, veh/h	-					
Peak	Hour Factor	0.96	Total Trucks, %		2.00					
Segr	nent Capacity, veh/h	1700	Demand/Capacity	y (D/C)	0.05					
Inte	ermediate Results									
Segr	nent Vertical Class	1	Free-Flow Speed,	mi/h	45.5					
Spee	ed Slope Coefficient	3.02537	Speed Power Coe	efficient	0.41674					
PF S	lope Coefficient	-1.38653	PF Power Coeffici	ent	0.71808					
In Pa	ssing Lane Effective Length?	No	Total Segment De	ensity, veh/mi/ln	0.4					
%lm	proved % Followers	0.0	% Improved Avg	Speed	0.0					
Sub	osegment Data									
#	Segment Type	Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h					
1	Tangent	5280	-	-	45.5					
Veł	nicle Results									
Aver	age Speed, mi/h	45.5	Percent Followers	5, %	21.9					
Segr	nent Travel Time, minutes	1.32	Followers Density	, followers/mi/ln	0.4					
Vehi	cle LOS	A								
Copyri	opyright © 2020 University of Florida. All Rights Reserved. HCS1100 Two-Lane Version 7.8 Generated: 12/06/2020 22:05:22									

Copyright © 2020 University of Florida. All Rights Reserved. HCS100 Two-Lane Version 7.8 4_Lodi Ln – East of Project Driveway (EB) – Friday PM – B+P.xuf

	HCS7 Two-Lane Highway Report									
Pro	oject Information									
Ana	lyst	КТ		Date		12/4/20				
Age	ncy	W-Trans		Analysis Year		2020				
Juris	diction	County of Napa		Time Period Analy	zed	Friday PM Baseline plus Project				
Project Description		Lodi Ln – East of Project Driveway (WB) – Friday PM		Unit		United States Customary				
		S	Segn	nent 1						
Vel	nicle Inputs									
Seg	ment Type	Passing Constrained		Length, ft		5280				
Lane	e Width, ft	14		Shoulder Width, f	t	0				
Spee	ed Limit, mi/h	45		Access Point Density, pts/mi		0.0				
De	mand and Capacity									
Directional Demand Flow Rate, veh/h 12		125		Opposing Deman	d Flow Rate, veh/h	-				
Peak	Hour Factor	0.96		Total Trucks, %		2.00				
Segi	ment Capacity, veh/h	1700		Demand/Capacity	(D/C)	0.07				
Int	ermediate Results									
Seg	ment Vertical Class	1		Free-Flow Speed,	mi/h	48.2				
Spee	ed Slope Coefficient	3.17442		Speed Power Coefficient		0.41674				
PF S	lope Coefficient	-1.37589		PF Power Coefficient		0.72723				
In Pa	assing Lane Effective Length?	No		Total Segment De	nsity, veh/mi/ln	0.7				
%lm	proved % Followers	0.0		% Improved Avg	Speed	0.0				
Sul	bsegment Data	·								
#	Segment Type	Length, ft	Rac	dius, ft	Superelevation, %	Average Speed, mi/h				
1	Tangent	5280	-		-	47.6				
Vel	nicle Results									
Ave	rage Speed, mi/h	47.6		Percent Followers	, %	26.2				
Seg	ment Travel Time, minutes	1.26		Followers Density, followers/mi/ln		0.7				
Vehi	cle LOS	A		1						
Copyr	ight © 2020 University of Florida. All Rights	s Reserved. HCS1	M Two-L	Lane Version 7.8		Generated: 12/06/2020 22:06:1				

4_Lodi Ln - East of Project Driveway (WB) - Friday PM - B+P.xuf

	HCS7 Two-Lane Highway Report									
Pro	Project Information									
Analyst KT			Date		12/4/20					
Ager	псу	W-Trans	Analysis Year		2020					
Juris	diction	County of Napa	Time Period Analy	yzed	Friday PM Baseline plus Project					
Project Description		Silverado Trail – North o Lodi Lane (NB) – Friday	of Unit PM		United States Customary					
	Segment 1									
Veł	nicle Inputs									
Segr	nent Type	Passing Constrained	Length, ft		5280					
Lane	Width, ft	12	Shoulder Width, f	t	6					
Spee	ed Limit, mi/h	45	Access Point Den	sity, pts/mi	5.0					
Der	mand and Capacity									
Direc	ctional Demand Flow Rate, veh/h	346	Opposing Deman	d Flow Rate, veh/h	-					
Peak	Hour Factor	0.96	Total Trucks, %		2.00					
Segr	nent Capacity, veh/h	1700	Demand/Capacity	/ (D/C)	0.20					
Inte	ermediate Results									
Segn	nent Vertical Class	1	Free-Flow Speed,	mi/h	50.0					
Spee	ed Slope Coefficient	3.26927	Speed Power Coe	fficient	0.41674					
PF SI	lope Coefficient	-1.36736	PF Power Coeffici	ent	0.73272					
In Pa	ssing Lane Effective Length?	No	Total Segment De	ensity, veh/mi/ln	3.3					
%lm	proved % Followers	0.0	% Improved Avg	Speed	0.0					
Suk	osegment Data									
#	Segment Type	Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h					
1	Tangent	5280	-	-	48.2					
Veł	nicle Results									
Aver	age Speed, mi/h	48.2	Percent Followers	, %	46.6					
Segn	nent Travel Time, minutes	1.25	Followers Density	, followers/mi/ln	3.3					
Vehi	cle LOS	В								
Copyri	opyright © 2020 University of Florida. All Rights Reserved. HCS1100 Two-Lane Version 7.8 Generated: 12/06/2020 22:06:40									

Copyright © 2020 University of Florida. All Rights Reserved. HCS 100 Two-Lane Version 7.8 5_Silverado Trail – North of Lodi Lane (NB) – Friday PM – B+P.xuf

		HCS7 Two-I	Lane	e Highway Re	eport	
Pro	ject Information					
Anal	yst	КТ		Date		12/4/20
Agei	псу	W-Trans		Analysis Year		2020
Juris	diction	County of Napa		Time Period Analy	zed	Friday PM Baseline plus Project
Proje	ect Description	Silverado Trail – North of Lodi Lane (SB) – Friday PM		Unit		United States Customary
		:	Segr	nent 1		
Veł	nicle Inputs					
Segr	nent Type	Passing Constrained		Length, ft		5280
Lane	Width, ft	12		Shoulder Width, f	t	6
Spee	ed Limit, mi/h	45		Access Point Dens	iity, pts/mi	1.0
Dei	mand and Capacity					
Dire	ctional Demand Flow Rate, veh/h	330		Opposing Deman	d Flow Rate, veh/h	-
Peak	Hour Factor	0.96		Total Trucks, %		2.00
Segr	nent Capacity, veh/h	1700		Demand/Capacity	r (D/C)	0.19
Inte	ermediate Results					
Segr	nent Vertical Class	1		Free-Flow Speed,	mi/h	51.0
Spee	ed Slope Coefficient	3.32347		Speed Power Coefficient		0.41674
PF S	lope Coefficient	-1.36191		PF Power Coefficient		0.73576
In Pa	assing Lane Effective Length?	No		Total Segment De	nsity, veh/mi/ln	3.0
%lm	proved % Followers	0.0		% Improved Avg	Speed	0.0
Suł	osegment Data					
#	Segment Type	Length, ft	Rad	dius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	5280	-		-	49.2
Veł	nicle Results					
Aver	age Speed, mi/h	49.2		Percent Followers	, %	45.3
Segr	nent Travel Time, minutes	1.22		Followers Density,	followers/mi/In	3.0
Vehi	cle LOS	В				
Copyri	ght © 2020 University of Florida. All Rights	Reserved. HCS1	M Two-I	Lane Version 7.8		Generated: 12/06/2020 22:07:06

5_Silverado Trail – North of Lodi Lane (SB) – Friday PM – B+P.xuf

		HCS7 Two-La	ne Highway R	eport						
Pro	ject Information									
Anal	yst	KT	Date		12/4/20					
Ager	псу	W-Trans	Analysis Year		2020					
Juris	diction	County of Napa	Time Period Anal	yzed	Friday PM Baseline plus Project					
Project Description		Silverado Trail – South c Lodi Lane (NB) – Friday	of Unit PM		United States Customary					
	Segment 1									
Veł	nicle Inputs									
Segr	nent Type	Passing Constrained	Length, ft		5280					
Lane	Width, ft	12	Shoulder Width,	ft	6					
Speed Limit, mi/h		45	Access Point Den	sity, pts/mi	5.0					
Dei	mand and Capacity									
Dire	ctional Demand Flow Rate, veh/h	382	Opposing Demar	nd Flow Rate, veh/h	-					
Peak	Hour Factor	0.96	Total Trucks, %		2.00					
Segr	nent Capacity, veh/h	1700	Demand/Capacit	y (D/C)	0.22					
Inte	ermediate Results									
Segr	nent Vertical Class	1	Free-Flow Speed,	mi/h	50.0					
Spee	ed Slope Coefficient	3.26927	Speed Power Coe	efficient	0.41674					
PF S	lope Coefficient	-1.36736	PF Power Coeffic	ient	0.73272					
In Pa	issing Lane Effective Length?	No	Total Segment De	ensity, veh/mi/ln	3.9					
%lm	proved % Followers	0.0	% Improved Avg	Speed	0.0					
Sub	osegment Data									
#	Segment Type	Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h					
1	Tangent	5280	-	-	48.1					
Veł	nicle Results									
Aver	age Speed, mi/h	48.1	Percent Followers	5, %	49.1					
Segr	nent Travel Time, minutes	1.25	Followers Density	ı, followers/mi/ln	3.9					
Vehi	cle LOS	В								
Copyri	pyright © 2020 University of Florida. All Rights Reserved. HCS1000 Two-Lane Version 7.8 Generated: 12/06/2020 22:07:41									

Copyright © 2020 University of Florida. All Rights Reserved. HCS 100 Two-Lane Version 7.8 6_Silverado Trail – South of Lodi Lane (NB) – Friday PM – B+P.xuf

		HCS7 Two-I	Lane	e Highway Re	eport	
Pro	ject Information					
Anal	yst	КТ		Date		12/4/20
Ager	псу	W-Trans		Analysis Year		2020
Juris	diction	County of Napa		Time Period Analy	zed	Friday PM Baseline plus Project
Project Description S		Silverado Trail – South of Lodi Lane (SB) – Friday PM		Unit		United States Customary
			Segn	nent 1		
Veł	nicle Inputs					
Segr	nent Type	Passing Constrained	l	Length, ft		5280
Lane	Width, ft	12		Shoulder Width, f	t	6
Spee	ed Limit, mi/h	45		Access Point Dens	sity, pts/mi	1.0
Dei	mand and Capacity					
Directional Demand Flow Rate, veh/h		332		Opposing Deman	d Flow Rate, veh/h	-
Peak	Hour Factor	0.96		Total Trucks, %		2.00
Segr	nent Capacity, veh/h	1700		Demand/Capacity	r (D/C)	0.20
Inte	ermediate Results					
Segr	nent Vertical Class	1		Free-Flow Speed,	mi/h	51.0
Spee	ed Slope Coefficient	3.32347		Speed Power Coefficient		0.41674
PF S	lope Coefficient	-1.36191		PF Power Coefficie	ent	0.73576
In Pa	assing Lane Effective Length?	No		Total Segment De	nsity, veh/mi/ln	3.1
%lm	proved % Followers	0.0		% Improved Avg	Speed	0.0
Suł	osegment Data					
#	Segment Type	Length, ft	Rad	dius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	5280	-		-	49.2
Veł	nicle Results					
Aver	age Speed, mi/h	49.2		Percent Followers	, %	45.4
Segment Travel Time, minutes 1.22 Followers Densit					, followers/mi/ln	3.1
Vehi	cle LOS	В				
Copyri	ght © 2020 University of Florida. All Rights	Reserved. HCS1	ina Two-L	Lane Version 7.8		Generated: 12/06/2020 22:08:11

6_Silverado Trail - South of Lodi Lane (SB) - Friday PM - B+P.xuf

			HCS7 Two-L	ane	High	vay Re	eport	
Pre	oject Infor	mation						
Ana	ilyst		KT		Date			6/2/2021
Age	ency		W-Trans		Analysis Year			2021
Juri	sdiction		County of Napa		Time Per	iod Analy	zed	Saturday PM Baseline plus Project
Pro	ject Descriptio	n	SR 29 – North of Lodi Lane (NB) – Saturday PM		Unit			United States Customary
	Segment 1							
Ve	hicle Inpu	ts						
Segment Type Passing Constrained				Length,	ft		5280	
Lan	e Width, ft		12		Shoulde	r Width, f	t	6
Spe	Speed Limit, mi/h		50		Access P	oint Dens	ity, pts/mi	4.0
De	mand and	Capacity						
Directional Demand Flow Rate, veh/h		721		Opposing Demand Flow Rate, veh/h		d Flow Rate, veh/h	-	
Peak Hour Factor		0.96		Total Tru	cks, %		2.00	
Seg	ment Capacity	r, veh/h	1700		Demand	/Capacity	(D/C)	0.42
Int	ermediate	Results						
Seg	ment Vertical	Class	1		Free-Flo	w Speed,	mi/h	55.9
Spe	ed Slope Coef	ficient	3.59176		Speed Power Coefficient		fficient	0.41674
PF S	Slope Coefficie	nt	-1.32959		PF Powe	r Coefficie	ent	0.74990
In P	assing Lane Ef	fective Length?	No		Total Segment Density, veh/mi/ln		nsity, veh/mi/ln	8.8
%In	nproved % Fol	lowers	0.0		% Impro	% Improved Avg Speed		0.0
Su	bsegment	Data						
#	Segment Ty	pe	Length, ft	Rad	lius, ft		Superelevation, %	Average Speed, mi/h
1	Tangent		5280	-			-	53.0
Ve	hicle Resu	lts						
Ave	rage Speed, m	ii/h	53.0		Percent	Followers,	. %	64.7
Seg	ment Travel Ti	me, minutes	1.13		Follower	Density,	followers/mi/ln	8.8
Veh	icle LOS		с					
Fa	cility Resu	lts						
	т	Follower	Density, followers/mi	/ln	LOS			s
	1		8.8			C		
Сору	right © 2021 Uni	versity of Florida. All Rights	Reserved. HCST	a Two-L	ane Version	7.9		Generated: 05/31/2021 18:41:29

HCSTM Two-Lane Version 7.9 1_SR 29 – North of Lodi Lane (NB) – Saturday PM – B+P.xuf

	HCS7 Two-Lane Highway Report								
Project Infor	Project Information								
Analyst		КТ		Date			6/2/2021		
Agency		W-Trans		Analysis	Analysis Year		2021		
Jurisdiction		County of Napa		Time Per	iod Analy	zed	Saturday PM Baseline plus Project		
Project Description SR 29 – North of Lodi Lane (SB) – Saturday PM		Lane	Unit			United States Customary			
Segment 1									
Vehicle Input	ts								
Segment Type		Passing Constrained		Length, f	ft		5280		
Lane Width, ft		12		Shoulde	r Width, ft	t	6		
Speed Limit, mi/h		50		Access P	oint Dens	ity, pts/mi	10.0		
Demand and	Demand and Capacity								
Directional Demand Flow Rate, veh/h		718		Opposing Demand Flow Rate, veh/h		d Flow Rate, veh/h	-		
Peak Hour Factor		0.96		Total Tru	cks, %		2.00		
Segment Capacity	v, veh/h	1700		Demand	/Capacity	(D/C)	0.42		
Intermediate	Results								
Segment Vertical	Class	1		Free-Flo	w Speed,	mi/h	54.4		
Speed Slope Coef	ficient	3.51046		Speed Power Coefficient		fficient	0.41674		
PF Slope Coefficie	ent	-1.34026		PF Power Coefficient		ent	0.74575		
In Passing Lane Ef	fective Length?	No		Total Seg	gment De	nsity, veh/mi/ln	9.0		
%Improved % Fol	lowers	0.0		% Improved Avg Speed		speed	0.0		
Subsegment	Data								
# Segment Ty	ре	Length, ft	Rad	ius, ft		Superelevation, %	Average Speed, mi/h		
1 Tangent		5280	-			-	51.6		
Vehicle Resu	lts								
Average Speed, m	ni/h	51.6		Percent I	Followers,	%	64.9		
Segment Travel Ti	me, minutes	1.16	_	Follower	Density,	followers/mi/ln	9.0		
Vehicle LOS C									
Facility Resu	lts								
т	Follower	Density, followers/mi/	In			LO	S		
1		9.0				C			
Copyright © 2021 Univ	pyright © 2021 University of Florida. All Rights Reserved. HCSTMI Two-Lane Version 7.9 Generated: 05/31/2021 18:42:51 1 SR 29 – North of Lodi Lane (SR) – Saturday PM – B+P suf								

			HCS7 Two	-Lane	High	vay Re	eport	
Pr	oject Info	mation						
Ana	alyst		КТ		Date			6/2/2021
Age	ency		W-Trans		Analysis	Analysis Year		2021
Juri	isdiction		County of Napa		Time Per	iod Analy	zed	Saturday PM Baseline plus Project
Pro	ject Descriptio	n	SR 29 – South of I (NB) – Saturday P	SR 29 – South of Lodi Lane (NB) – Saturday PM				United States Customary
			·	Segn	nent 1			
Ve	hicle Inpu	ts						
Seg	gment Type		Passing Constrain	ed	Length, t	ft		5280
Lan	Lane Width, ft		12		Shoulde	r Width, f	t	6
Spe	Speed Limit, mi/h		50		Access P	oint Dens	iity, pts/mi	4.0
De	emand and	l Capacity						
Dire	Directional Demand Flow Rate, veh/h		735		Opposing Demand Flow Rate, veh/h			-
Peak Hour Factor		0.96	0.96		cks, %		2.00	
Seg	Segment Capacity, veh/h		1700		Demand	/Capacity	(D/C)	0.43
Int	termediate	e Results						-
Seg	gment Vertical	Class	1	1		w Speed,	mi/h	55.9
Spe	eed Slope Coet	ficient	3.59176		Speed P	ower Coe	fficient	0.41674
PF S	Slope Coefficie	ent	-1.32959		PF Power Coefficient		ent	0.74990
In F	Passing Lane El	fective Length?	No		Total Segment Density, veh/mi/ln		nsity, veh/mi/ln	9.1
%In	mproved % Fol	lowers	0.0		% Improved Avg Speed			0.0
Su	ıbsegment	Data						
#	Segment Ty	pe	Length, ft	Rac	lius, ft		Superelevation, %	Average Speed, mi/h
1	Tangent		5280	-			-	53.0
Ve	hicle Resu	lts						
Ave	erage Speed, n	ni/h	53.0		Percent	Followers,	. %	65.2
Segment Travel Time, minutes 1.13		1.13		Follower	Density,	followers/mi/ln	9.1	
Veh	nicle LOS		С					
Fa	cility Resu	lts						
	т	Follower	Density, followers,	/mi/ln	LOS			95
	1		9.1		с			
Copyright © 2021 University of Florida All Rights Reserved HC			CS1000 Two-L	Lane Version 7.9 G			Generated: 05/31/2021 18:43:3	

HCSTM Two-Lane Version 7.9 2_SR 29 - South of Lodi Lane (NB) - Saturday PM - B+P.xuf

	HCS7 Two-La	ane	Highv	vay Re	eport				
Project Information									
Analyst	КТ		Date			12/4/2020			
Agency	W-Trans		Analysis Year			2021			
Jurisdiction	County of Napa		Time Per	iod Analy	zed	Saturday PM Baseline plus Project			
Project Description	SR 29 – South of Lodi (SB) – Saturday PM	Lane	Unit			United States Customary			
	S	egm	ent 1						
Vehicle Inputs									
Segment Type	Passing Constrained		Length, f	t		5280			
Lane Width, ft	12		Shoulder	Width, ft	:	6			
Speed Limit, mi/h	50		Access P	oint Dens	ity, pts/mi	10.0			
Demand and Capacity	Demand and Capacity								
Directional Demand Flow Rate, veh/h	729		Opposing Demand Flow Rate, veh/h			-			
Peak Hour Factor	0.96		Total True	cks, %		2.00			
Segment Capacity, veh/h	1700		Demand,	/Capacity	(D/C)	0.43			
Intermediate Results									
Segment Vertical Class	1		Free-Flov	v Speed,	mi/h	54.4			
Speed Slope Coefficient	3.51046		Speed Power Coefficient			0.41674			
PF Slope Coefficient	-1.34026		PF Power Coefficient			0.74575			
In Passing Lane Effective Length?	No		Total Segment Density, veh/mi/ln			9.2			
%Improved % Followers	0.0		% Improved Avg Speed			0.0			
Subsegment Data	·					-			
# Segment Type	Length, ft	Radi	us, ft		Superelevation, %	Average Speed, mi/h			
1 Tangent	5280	-			-	51.5			
Vehicle Results									
Average Speed, mi/h	51.5		Percent F	ollowers,	%	65.3			
Segment Travel Time, minutes	1.16		Follower	Density, f	followers/mi/In	9.2			
Vehicle LOS	С								
Facility Results	1								
T Follower	Density, followers/mi/	In			LO	S			
1	9.2				C				
Copyright © 2021 University of Florida. All Rights	Reserved. HCSTM 2_SR 29 – South of Loc	Two-La di Lane (ne Version (SB) – Satur	7.9 day PM – B	+P.xuf	Generated: 05/31/2021 18:44:40			

		HCS7 Two	o-Lane	High	vay Re	eport	
Project Info	ormation						
Analyst		КТ		Date			6/2/2021
Agency		W-Trans		Analysis	Year		2021
Jurisdiction		County of Napa		Time Per	iod Analy	zed	Saturday PM Baseline plus Project
Project Descript	roject Description Lodi Ln – West of Project Driveway (EB) – Saturday PM		of Project Saturday	Unit			United States Customary
			Segn	nent 1			
Vehicle Inp	uts						
Segment Type		Passing Constrai	ned	Length,	ft		5280
Lane Width, ft		14		Shoulde	r Width, ft	:	0
Speed Limit, mi,	'n	45		Access P	oint Dens	ity, pts/mi	11.0
Demand an	d Capacity	-					
Directional Dem	and Flow Rate, veh/h	70		Opposing Demand Flow Rate, veh/h			-
Peak Hour Factor		0.96		Total Tru	Total Trucks, %		2.00
Segment Capacity, veh/h		1700		Demand	/Capacity	(D/C)	0.04
Intermedia	te Results						
Segment Vertica	l Class	1	1 F		w Speed,	mi/h	45.5
Speed Slope Co	efficient	3.02537		Speed P	ower Coet	fficient	0.41674
PF Slope Coeffic	ient	-1.38653		PF Power Coefficient			0.71808
In Passing Lane	Effective Length?	No		Total Segment Density, veh/mi/ln		nsity, veh/mi/ln	0.3
%Improved % F	ollowers	0.0		% Improved Avg Speed			0.0
Subsegmer	nt Data						·
# Segment	Гуре	Length, ft	Rac	lius, ft		Superelevation, %	Average Speed, mi/h
1 Tangent		5280	-			-	45.5
Vehicle Res	ults						-
Average Speed,	mi/h	45.5		Percent	Followers,	%	18.5
Segment Travel	1.32	1.32 Foll		Density,	followers/mi/ln	0.3	
Vehicle LOS		A					
Facility Res	ults						
т	Followe	r Density, follower	s/mi/ln	LOS			S
1		0.3			A		
Copyright © 2021 U	Reserved.	HCS1000 Two-L	ane Version	7.9	Generated: 05/31/2021 18:45:20		

 Reserved.
 HCS 100/1 Wo-Lane Version 7.9

 3_Lodi Ln – West of Project Driveway (EB) – Saturday PM – B+P.xuf
 Copyright © 2021 University of Florida. All Rights Reserved.

	HCS7 Two-La	ane	High	way Re	eport		
Project Information							
Analyst	КТ		Date			6/2/2021	
Agency	W-Trans		Analysis Year			2021	
Jurisdiction	County of Napa		Time Per	riod Analy	zed	Saturday PM Baseline plus Project	
Project Description	rroject Description Lodi Ln – West of Project Driveway (WB) – Saturday PM		Unit			United States Customary	
	Se	egm	ent 1				
Vehicle Inputs							
Segment Type	Passing Constrained		Length,	ft		5280	
Lane Width, ft	14		Shoulde	r Width, f	t	0	
Speed Limit, mi/h	45		Access P	oint Dens	sity, pts/mi	10.0	
Demand and Capacity	·					- -	
Directional Demand Flow Rate, veh/h	70		Opposin	g Deman	d Flow Rate, veh/h	-	
Peak Hour Factor	0.96		Total Trucks, %			2.00	
Segment Capacity, veh/h	1700		Demand	/Capacity	r (D/C)	0.04	
Intermediate Results							
Segment Vertical Class	1		Free-Flo	w Speed,	mi/h	45.7	
Speed Slope Coefficient	3.03892		Speed P	ower Coe	fficient	0.41674	
PF Slope Coefficient	-1.38571		PF Power Coefficient			0.71894	
In Passing Lane Effective Length?	No		Total Segment Density, veh/mi/ln		nsity, veh/mi/ln	0.3	
%Improved % Followers	0.0		% Improved Avg Speed			0.0	
Subsegment Data	·						
# Segment Type	Length, ft	Radi	ius, ft		Superelevation, %	Average Speed, mi/h	
1 Tangent	5280	-			-	45.7	
Vehicle Results						·	
Average Speed, mi/h	45.7		Percent	Followers	, %	18.5	
Segment Travel Time, minutes	1.31		Follower Density, followers/mi/ln			0.3	
Vehicle LOS	A						
Facility Results							
T Follower	T Follower Density, followers/mi/ln				LOS		
1	0.3 Reserved HCSTM	Two-La	A constant of 01/001119			Generated: 05/31/2021 18:46:00	

Reserved. HCS1100 Two-Lane Version 7.9 3_Lodi Ln – West of Project Driveway (WB) – Saturday PM – B+P.xuf nt © 2021 Ui

		HCS7 Two	o-Lane	Highv	vay Re	eport	
Project	Information						
Analyst		КТ		Date			6/2/2021
Agency		W-Trans		Analysis	Year		2021
Jurisdiction		County of Napa		Time Per	iod Analy	zed	Saturday PM Baseline plus Project
Project Description		Lodi Ln – East of Driveway (EB) – PM	Lodi Ln – East of Project Driveway (EB) – Saturday PM				United States Customary
			Segn	nent 1			
Vehicle	Inputs						
Segment Ty	уре	Passing Constrai	ined	Length, f	ít		5280
Lane Width	ı, ft	14		Shoulder	r Width, fl	:	0
Speed Limi	t, mi/h	45		Access P	oint Dens	ity, pts/mi	0.0
Demand	and Capacity						
Directional	Demand Flow Rate, veh/h	62		Opposin	g Deman	d Flow Rate, veh/h	-
Peak Hour Factor		0.91		Total Tru	cks, %		3.00
Segment Capacity, veh/h		1700		Demand	/Capacity	(D/C)	0.04
Interme	diate Results						
Segment Vr	ertical Class	1		Free-Flow Speed, mi/h			48.2
Speed Slop	e Coefficient	3.17262		Speed Po	ower Coet	ficient	0.41674
PF Slope Co	pefficient	-1.37591		PF Power Coefficient			0.72726
In Passing I	Lane Effective Length?	No		Total Segment Density, veh/mi/ln		nsity, veh/mi/ln	0.2
%Improved	1 % Followers	0.0		% Improved Avg Speed			0.0
Subsegr	ment Data						
# Segm	nent Type	Length, ft	Rad	lius, ft		Superelevation, %	Average Speed, mi/h
1 Tange	ent	5280	-			-	48.2
Vehicle	Results					<u> </u>	-
Average Sp	eed, mi/h	48.2		Percent I	ollowers,	%	16.6
Segment Travel Time, minutes 1.24				Follower Density, followers/mi/ln		0.2	
Vehicle LOS	5	A					
Facility	Results						
т	Followe	Density, follower	rs/mi/ln		LOS		
1 02				A			

HCS100 Two-Lane Version 7.9 4_Lodi Ln – East of Project Driveway (EB) – Saturday PM – B+P.xuf

		HCS7 Two-	-Lane	Highv	vay Re	eport		
Project Info	mation							
nalyst		КТ		Date			6/2/2021	
gency		W-Trans		Analysis	s Year		2021	
urisdiction		County of Napa		Time Per	iod Analy	zed	Saturday PM Baseline plus Project	
roject Description		Lodi Ln – East of Project Driveway (WB) – Saturday PM		Unit			United States Customary	
			Segn	nent 1				
/ehicle Inpu	ts							
egment Type		Passing Constraine	ed	Length, f	t		5280	
ane Width, ft		14		Shoulder	Width, f	t	0	
peed Limit, mi/h		45		Access P	oint Dens	ity, pts/mi	0.0	
Demand and	l Capacity						•	
irectional Dema	nd Flow Rate, veh/h	78		Opposin	g Deman	d Flow Rate, veh/h	-	
eak Hour Factor		0.91		Total Tru	cks, %		3.00	
egment Capacit	/, veh/h	1700		Demand	/Capacity	(D/C)	0.05	
ntermediat	e Results							
egment Vertical	Class	1		Free-Flow Speed, mi/h			48.2	
peed Slope Coe	ficient	3.17262		Speed Po	ower Coet	fficient	0.41674	
F Slope Coefficie	ent	-1.37591	-1.37591		Coefficie	ent	0.72726	
n Passing Lane E	fective Length?	No	No		ment De	nsity, veh/mi/ln	0.3	
6Improved % Fo	lowers	0.0		% Improved Avg Speed			0.0	
Subsegment	Data						•	
Segment Ty	pe	Length, ft	Rad	lius, ft		Superelevation, %	Average Speed, mi/h	
Tangent		5280	-			-	48.2	
/ehicle Resu	lts	·						
werage Speed, n	ni/h	48.2		Percent F	ollowers,	%	19.4	
egment Travel Time, minutes 1.24				Follower	Density,	followers/mi/ln	0.3	
ehicle LOS		A						
acility Resu	lts							
т	Follower	Density, followers/	mi/ln		LOS			
1		0.3			A			
pyright © 2021 University of Florida. All Rights Reserved.			S1000 Two-L	Two-Lane Version 7.9			Generated: 05/31/2021 18:47:20	

Copyright © 2021 University of Florida. All Rights Reserved. HCS100 Two-Lane Version 7.9 4_Lodi Ln – East of Project Driveway (WB) – Saturday PM – B+P.xuf

		HCS7 Two	o-Lane	Highv	vay Re	eport		
Project Inf	ormation							
Analyst		КТ		Date			6/2/2021	
Agency		W-Trans		Analysis	Year		2021	
Jurisdiction		County of Napa		Time Per	iod Analy	zed	Saturday PM Baseline plus Project	
Project Descrip	Project Description		Silverado Trail – North of Lodi Lane (NB) – Saturday PM				United States Customary	
			Segn	nent 1				
Vehicle Inp	outs							
Segment Type		Passing Constrai	ned	Length, f	ft		5280	
Lane Width, ft		12		Shoulder	r Width, fl	t	6	
Speed Limit, m	i/h	45		Access P	oint Dens	ity, pts/mi	5.0	
Demand a	nd Capacity							
Directional Der	nand Flow Rate, veh/h	343		Opposin	g Deman	d Flow Rate, veh/h	-	
Peak Hour Factor		0.91		Total Tru	cks, %		3.00	
Segment Capacity, veh/h		1700		Demand	/Capacity	(D/C)	0.20	
Intermedia	te Results							
Segment Vertic	al Class	1		Free-Flow Speed, mi/h			50.0	
Speed Slope C	pefficient	3.26747		Speed Po	ower Coel	fficient	0.41674	
PF Slope Coeff	cient	-1.36740		PF Power Coefficient		ent	0.73276	
In Passing Lane	Effective Length?	No		Total Segment Density, veh/mi/ln		nsity, veh/mi/ln	3.3	
%Improved %	Followers	0.0		% Improved Avg Speed			0.0	
Subsegme	nt Data							
# Segment	Туре	Length, ft	Rac	lius, ft		Superelevation, %	Average Speed, mi/h	
1 Tangent		5280	-			-	48.1	
Vehicle Re	sults					1		
Average Speed	, mi/h	48.1		Percent I	Followers,	%	46.4	
Segment Travel Time, minutes 1.25				Follower	Density,	followers/mi/ln	3.3	
Vehicle LOS		В						
Facility Res	sults							
т	Followe	Density, follower	s/mi/ln		LOS			
1		3.3			В			
Copyright © 2021	Jniversity of Florida, All Rights	Reserved.	HCS1000 Two-L	ane Version	ersion 7.9 Generated: 05/31/2021 18:4			

 Reserved.
 HCS1000 Two-Lane Version 7.9

 5_Silverado Trail – North of Lodi Lane (NB) – Saturday PM – B+P.xuf
 Copyright © 2021 University of Florida. All Rights Reserved.

			HCS7 Two	-Lane	Highv	vay Re	eport		
Pro	ject Infor	mation							
Anal	yst		КТ		Date			6/2/2021	
Ager	ncy		W-Trans		Analysis	Year		2021	
uris	diction		County of Napa		Time Per	iod Analy	zed	Saturday PM Baseline plus Project	
Proj∉	ject Description Silverado Trail – North of Lodi Lane (SB) – Saturday PM		orth of aturday	Unit			United States Customary		
				Segn	nent 1				
Veł	nicle Input	s							
Segment Type			Passing Constraine	ed	Length, f	t		5280	
ane	e Width, ft		12		Shoulder	r Width, ft	:	6	
Spee	ed Limit, mi/h		45		Access P	oint Dens	ity, pts/mi	1.0	
Dei	mand and	Capacity							
Directional Demand Flow Rate, veh/h			315		Opposin	g Deman	d Flow Rate, veh/h	-	
Peak Hour Factor			0.91		Total Tru	cks, %		3.00	
Segment Capacity, veh/h 170			1700		Demand	/Capacity	(D/C)	0.19	
nte	ermediate	Results							
Segr	ment Vertical (Class	1		Free-Flov	w Speed,	mi/h	51.0	
Spee	ed Slope Coeff	ficient	3.32167		Speed Po	ower Coef	ficient	0.41674	
PF S	lope Coefficie	nt	-1.36197		PF Power Coefficient			0.73580	
n Pa	assing Lane Eff	fective Length?	No		Total Segment Density, veh/mi/ln			2.8	
%lm	proved % Foll	owers	0.0		% Improved Avg Speed			0.0	
Suł	osegment	Data							
ŧ	Segment Ty	pe	Length, ft	Rad	lius, ft		Superelevation, %	Average Speed, mi/h	
1	Tangent		5280	-			-	49.2	
Veł	nicle Resul	ts							
Aver	age Speed, m	i/h	49.2		Percent I	ollowers,	%	44.2	
Segment Travel Time, minutes 1.22			1.22		Follower	Density,	followers/mi/In	2.8	
/ehicle LOS B									
Fac	ility Resul	ts							
	т	Follower	Density, followers/	mi/ln		LOS			
	1		2.8			В			
opyright © 2021 University of Florida. All Rights Reserved.			Reserved. HC	HCSTM Two-Lane Version 7			7.9 Generated: 05/31/2021 18:48:59		

Reserved. HCS1000 Two-Lane Version 7.9 5_Silverado Trail – North of Lodi Lane (SB) – Saturday PM – B+P.xuf Copyright © 2021 University of Florida. All Rights Reserved.

		HCS7 Two	o-Lane	Highv	vay Re	eport		
Proje	ct Information							
Analyst		КТ		Date			6/2/2021	
Agency	,	W-Trans		Analysis	Analysis Year		2021	
Jurisdic	tion	County of Napa		Time Per	iod Analy	zed	Saturday PM Baseline plus Project	
Project	Description	Silverado Trail – S Lodi Lane (NB) – PM	Silverado Trail – South of Lodi Lane (NB) – Saturday PM				United States Customary	
			Segn	nent 1				
Vehic	le Inputs							
Segmer	nt Type	Passing Constrair	ned	Length, f	t		5280	
Lane W	'idth, ft	12		Shoulder	Width, ft	:	6	
Speed L	Limit, mi/h	45		Access P	oint Dens	ity, pts/mi	5.0	
Dema	and and Capacity							
Directio	onal Demand Flow Rate, veh	n/h 368		Opposin	g Demano	d Flow Rate, veh/h	-	
Peak Hour Factor		0.91		Total Tru	cks, %		3.00	
Segment Capacity, veh/h		1700		Demand	/Capacity	(D/C)	0.22	
Interi	mediate Results							
Segmer	nt Vertical Class	1		Free-Flow	w Speed,	ni/h	50.0	
Speed S	Slope Coefficient	3.26747	3.26747		ower Coef	ficient	0.41674	
PF Slop	e Coefficient	-1.36740		PF Power Coefficient			0.73276	
In Passi	ng Lane Effective Length?	No		Total Segment Density, veh/mi/ln		nsity, veh/mi/ln	3.7	
%Impro	oved % Followers	0.0		% Improved Avg Speed			0.0	
Subse	egment Data							
# S	egment Type	Length, ft	Rac	dius, ft		Superelevation, %	Average Speed, mi/h	
1 Ta	angent	5280	-			-	48.1	
Vehic	le Results	·						
Average	e Speed, mi/h	48.1		Percent I	ollowers,	%	48.2	
Segment Travel Time, minutes 1.25				Follower Density, followers/mi/ln		3.7		
Vehicle	LOS	В						
Facili	ty Results							
	T Fol	lower Density, followers	/mi/ln	LOS)S	
	1	3.7		В			3	
Copyright © 2021 University of Florida. All Rights Reserved. HCSTM Two-Lane V				ane Version	ne Version 7.9 Generated: 05/31/2021 18:49:50			

 Reserved.
 HCS100 Two-Lane Version 7.9

 6_Silverado Trail – South of Lodi Lane (NB) – Saturday PM – B+P.xuf
 Copyright © 2021 University of Florida. All Rights Reserved.

	HCS7 Two-La	ne Hig	hway R	eport		
Project Information						
Analyst	КТ	Date			6/2/2021	
Agency	W-Trans	Analy	sis Year		2021	
Jurisdiction	County of Napa	Time	Period Analy	/zed	Saturday PM Baseline plus Project	
Project Description	Project Description Silverado Trail – South of Lodi Lane (SB) – Saturday PM		Unit		United States Customary	
	Se	egment	1			
Vehicle Inputs						
Segment Type	Passing Constrained	Lengt	h, ft		5280	
Lane Width, ft	12	Shou	der Width, f	t	6	
Speed Limit, mi/h	45	Acces	s Point Den	sity, pts/mi	1.0	
Demand and Capacity					•	
Directional Demand Flow Rate, veh/h	321	Oppo	sing Deman	d Flow Rate, veh/h	-	
Peak Hour Factor	0.91	Total	Trucks, %		3.00	
Segment Capacity, veh/h	1700	Dema	ind/Capacity	(D/C)	0.19	
Intermediate Results						
Segment Vertical Class	1	Free-	Flow Speed,	mi/h	51.0	
Speed Slope Coefficient	3.32167	Speed	d Power Coe	fficient	0.41674	
PF Slope Coefficient	-1.36197	PF Po	wer Coeffici	ent	0.73580	
In Passing Lane Effective Length?	No	Total	Total Segment Density, veh/mi/ln		2.9	
%Improved % Followers	0.0	% Im	proved Avg	Speed	0.0	
Subsegment Data						
# Segment Type	Length, ft	Radius, ft		Superelevation, %	Average Speed, mi/h	
1 Tangent	5280	-		-	49.2	
Vehicle Results						
Average Speed, mi/h	49.2	Perce	nt Followers	, %	44.6	
Segment Travel Time, minutes	1.22	Follow	ver Density,	followers/mi/ln	2.9	
Vehicle LOS	В					
Facility Results					·	
T Followe	r Density, followers/mi/l	n	LOS			
1	2.9		В			
Copyright © 2021 University of Florida. All Rights Reserved. HCSTM Two-Lane Versic				Version 7.9 Generated: 05/31/2021 18:50:26		

 Reserved.
 HCS1000 Two-Lane Version 7.9

 6_Silverado Trail – South of Lodi Lane (SB) – Saturday PM – B+P.xuf
 it © 2021 Ur

Generated: 05/31/2021 18:50:26

	HCS7 Two-Lane Highway Report								
Pro	ject Information								
Anal	yst	КТ		Date		12/4/20			
Ager	псу	W-Trans		Analysis Year		2020			
Juris	diction	County of Napa	County of Napa		zed	Friday PM Future plus Project			
Proje	ect Description	SR 29 – North of Lodi (NB) – Friday PM	Lane	Unit		United States Customary			
Segment 1									
Vehicle Inputs									
Segr	nent Type	Passing Constrained		Length, ft		5280			
Lane	Width, ft	12		Shoulder Width, f	t	6			
Spee	d Limit, mi/h	50		Access Point Dens	sity, pts/mi	4.0			
Demand and Capacity									
Directional Demand Flow Rate, veh/h		1017		Opposing Deman	d Flow Rate, veh/h	-			
Peak	Hour Factor	1.00		Total Trucks, %		4.00			
Segr	nent Capacity, veh/h	1700		Demand/Capacity	r (D/C)	0.60			
Inte	ermediate Results								
Segr	nent Vertical Class	1			mi/h	55.9			
Spee	d Slope Coefficient	3.58815		Speed Power Coefficient		0.41674			
PF S	ope Coefficient	-1.32983		PF Power Coefficient		0.75000			
In Pa	ssing Lane Effective Length?	No		Total Segment De	nsity, veh/mi/ln	14.4			
%lm	proved % Followers	0.0		% Improved Avg S	Speed	0.0			
Suk	segment Data					·			
#	Segment Type	Length, ft	Rad	lius, ft	Superelevation, %	Average Speed, mi/h			
1	Tangent	5280	-		-	52.4			
Veł	icle Results								
Aver	age Speed, mi/h	52.4		Percent Followers,	, %	74.0			
Segr	nent Travel Time, minutes	1.14		Followers Density,	, followers/mi/ln	14.4			
Vehi	cle LOS	D							
Copyri	ght © 2020 University of Florida. All Rights	Reserved. HCSTM 1 SR 29 – North of Lo	Two-L odi Lan	ane Version 7.8 ne (NB) – Friday PM – F+	+P.xuf	Generated: 12/06/2020 22:19:4			

		HCS7 Two-Lar	ne Highway R	eport	
Pro	ject Information				
Anal	yst	КТ	Date		12/4/2020
Age	ncy	W-Trans	Analysis Year		2020
Juris	diction	County of Napa	Time Period Anal	yzed	Friday PM Future plus Project
Project Description		SR 29 – North of Lodi La (SB) – Friday PM	ine Unit		United States Customary
		Se	gment 1		
Veł	nicle Inputs				
Segr	nent Type	Passing Constrained	Length, ft		5280
Lane	e Width, ft	12	Shoulder Width,	ft	6
Spee	ed Limit, mi/h	50	Access Point Den	sity, pts/mi	10.0
De	mand and Capacity				
Dire	ctional Demand Flow Rate, veh/h	935	Opposing Demar	nd Flow Rate, veh/h	-
Peak	Hour Factor	1.00	Total Trucks, %		4.00
Segr	ment Capacity, veh/h	1700	Demand/Capacit	y (D/C)	0.55
Inte	ermediate Results				
Segr	ment Vertical Class	1	Free-Flow Speed,	mi/h	54.4
Spee	ed Slope Coefficient	3.50685	Speed Power Coe	efficient	0.41674
PF S	lope Coefficient	-1.34047	PF Power Coeffic	ient	0.74585
In Pa	assing Lane Effective Length?	No	Total Segment De	ensity, veh/mi/ln	13.2
%lm	proved % Followers	0.0	% Improved Avg	Speed	0.0
Sul	osegment Data				
#	Segment Type	Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	5280	-	-	51.1
Veł	nicle Results				
Aver	age Speed, mi/h	51.1	Percent Followers	5, %	72.1
Segr	ment Travel Time, minutes	1.17	Followers Density	/, followers/mi/ln	13.2
Vehi	cle LOS	D			
Copyri	ight © 2020 University of Florida. All Rights	Reserved. HCS1000 Tv	vo-Lane Version 7.8		Generated: 12/06/2020 22:20:20

1_SR 29 - North of Lodi Lane (SB) - Friday PM - F+P.xuf

		HCS7 Two-La	ne Highway R	eport				
Pro	ject Information							
Anal	yst	КТ	Date		12/4/2020			
Ager	псу	W-Trans	Analysis Year		2020			
Juris	diction	County of Napa	Time Period Analy	yzed	Friday PM Future plus Project			
Proje	ect Description	SR 29 – South of Lodi La (NB) – Friday PM	ane Unit		United States Customary			
	Segment 1							
Veł	nicle Inputs							
Segr	nent Type	Passing Constrained	Length, ft		5280			
Lane	Width, ft	12	Shoulder Width, f	t	6			
Spee	ed Limit, mi/h	50	Access Point Den	sity, pts/mi	4.0			
Der	mand and Capacity							
Direc	ctional Demand Flow Rate, veh/h	1021	Opposing Deman	d Flow Rate, veh/h	-			
Peak	Hour Factor	1.00	Total Trucks, %		4.00			
Segr	nent Capacity, veh/h	1700	Demand/Capacity	/ (D/C)	0.60			
Inte	ermediate Results							
Segn	nent Vertical Class	1	Free-Flow Speed,	Free-Flow Speed, mi/h 55.9				
Spee	ed Slope Coefficient	3.58815	Speed Power Coe	fficient	0.41674			
PF SI	lope Coefficient	-1.32983	PF Power Coeffici	ent	0.75000			
In Pa	issing Lane Effective Length?	No	Total Segment De	ensity, veh/mi/ln	14.4			
%lm	proved % Followers	0.0	% Improved Avg	Speed	0.0			
Suk	osegment Data							
#	Segment Type	Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h			
1	Tangent	5280	-	-	52.4			
Veł	nicle Results							
Aver	age Speed, mi/h	52.4	Percent Followers	i, %	74.1			
Segn	nent Travel Time, minutes	1.15	Followers Density	, followers/mi/ln	14.4			
Vehi	cle LOS	D						
Copyri	opvright © 2020 University of Florida. All Rights Reserved. HCSTMI Two-Lane Version 7.8 Generated: 12/06/2020 22:20:5							

Copyright © 2020 University of Florida. All Rights Reserved. HCS100 Two-Lane Version 7.8 2_SR 29 – South of Lodi Lane (NB) – Friday PM – F+P xuf

		HCS7 Two-Lar	ne Highway R	eport	
Pro	ject Information				
Anal	yst	КТ	Date		12/4/2020
Ager	ncy	W-Trans	Analysis Year		2020
Juris	diction	County of Napa	Time Period Anal	yzed	Friday PM Future plus Project
Proje	ect Description	SR 29 – South of Lodi La (SB) – Friday PM	ane Unit		United States Customary
		Se	gment 1		
Veł	nicle Inputs				
Segr	nent Type	Passing Constrained	Length, ft		5280
Lane	e Width, ft	12	Shoulder Width, f	t	6
Spee	ed Limit, mi/h	50	Access Point Den	sity, pts/mi	10.0
Dei	mand and Capacity				
Dire	ctional Demand Flow Rate, veh/h	1002	Opposing Demar	d Flow Rate, veh/h	-
Peak	Hour Factor	1.00	Total Trucks, %		4.00
Segr	ment Capacity, veh/h	1700	Demand/Capacity	/ (D/C)	0.59
Inte	ermediate Results				
Segr	ment Vertical Class	1	Free-Flow Speed,	mi/h	54.4
Spee	ed Slope Coefficient	3.50685	Speed Power Coe	fficient	0.41674
PF S	lope Coefficient	-1.34047	PF Power Coeffici	ent	0.74585
In Pa	assing Lane Effective Length?	No	Total Segment De	ensity, veh/mi/ln	14.5
%lm	proved % Followers	0.0	% Improved Avg	Speed	0.0
Suł	osegment Data				
#	Segment Type	Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	5280	-	-	51.0
Veł	nicle Results				
Aver	age Speed, mi/h	51.0	Percent Followers	i, %	73.9
Segr	ment Travel Time, minutes	1.18	Followers Density	, followers/mi/ln	14.5
Vehi	cle LOS	D			
Copyri	ight © 2020 University of Florida. All Rights	Reserved. HCS100 Tv	vo-Lane Version 7.8		Generated: 12/06/2020 22:21:15

2_SR 29 - South of Lodi Lane (SB) - Friday PM - F+P.xuf

		HCS7 Two-La	ne Highway I	Report					
Pro	Project Information								
Anal	yst	KT	Date		12/4/2020				
Ager	псу	W-Trans	Analysis Year		2020				
Juris	diction	County of Napa	Time Period An	alyzed	Friday PM Future plus Project				
Proje	ect Description	Lodi Ln – West of Proje Driveway (EB) – Friday I	ct Unit PM		United States Customary				
		Se	egment 1						
Veł	nicle Inputs								
Segr	nent Type	Passing Constrained	Length, ft		5280				
Lane	Width, ft	14	Shoulder Width	ı, ft	0				
Spee	ed Limit, mi/h	45	Access Point De	ensity, pts/mi	11.0				
Dei	mand and Capacity								
Dire	ctional Demand Flow Rate, veh/h	74	Opposing Dem	and Flow Rate, veh/h	-				
Peak	Hour Factor	1.00	Total Trucks, %	Total Trucks, % 4.00					
Segr	nent Capacity, veh/h	1700	Demand/Capac	ity (D/C)	0.04				
Inte	ermediate Results								
Segr	nent Vertical Class	1	Free-Flow Spee	Free-Flow Speed, mi/h 45.4					
Spee	ed Slope Coefficient	3.02176	Speed Power C	ee-Flow Speed, mi/h 45.4 eed Power Coefficient 0.41674 Power Coefficient 0.71813					
PF S	lope Coefficient	-1.38649	PF Power Coeff	icient	0.71813				
In Pa	ssing Lane Effective Length?	No	Total Segment	Density, veh/mi/ln	0.3				
%lm	proved % Followers	0.0	% Improved Av	g Speed	0.0				
Sub	osegment Data								
#	Segment Type	Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h				
1	Tangent	5280	-	-	45.4				
Veł	nicle Results								
Aver	age Speed, mi/h	45.4	Percent Followe	ers, %	19.2				
Segr	nent Travel Time, minutes	1.32	Followers Dens	ity, followers/mi/In	0.3				
Vehi	cle LOS	A							
Copyri	opyright © 2020 University of Florida. All Rights Reserved. HCS1000 Two-Lane Version 7.8 Generated: 12/06/2020 22:21:45								

Copyright © 2020 University of Florida. All Rights Reserved. HCS1001 Two-Lane Version 7.8 3_Lodi Ln – West of Project Driveway (EB) – Friday PM – F+P.xuf

		HCS7 Two-	Lane	e Highway Re	eport	
Pro	ject Information					
Anal	yst	КТ		Date		12/4/2020
Ager	псу	W-Trans		Analysis Year		2020
Juris	diction	County of Napa		Time Period Analy	zed	Friday PM Future plus Project
Proje	ect Description	Lodi Ln – West of Pr Driveway (WB) – Fri	oject day PM	Unit		United States Customary
			Segn	nent 1		
Veł	nicle Inputs					
Segr	nent Type	Passing Constrained	ł	Jment 1 Length, ft Shoulder Width, ft Access Point Density, pts/mi Opposing Demand Flow Rate, veh/h Total Trucks, % Demand/Capacity (D/C) Free-Flow Speed, mi/h		5280
Lane	Width, ft	14		Shoulder Width, f	t	0
Spee	ed Limit, mi/h	45		Access Point Dens	iity, pts/mi	10.0
Dei	mand and Capacity					
Dire	ctional Demand Flow Rate, veh/h	137		Opposing Deman	d Flow Rate, veh/h	-
Peak	Hour Factor	1.00		Total Trucks, %		4.00
Segr	nent Capacity, veh/h	1700		Demand/Capacity	r (D/C)	0.08
Inte	ermediate Results					
Segr	nent Vertical Class	1		Free-Flow Speed,	mi/h	45.7
Spee	ed Slope Coefficient	3.03531		Speed Power Coe	fficient	0.41674
PF S	lope Coefficient	-1.38568		PF Power Coefficie	ent	0.71899
In Pa	assing Lane Effective Length?	No		Total Segment De	nsity, veh/mi/ln	0.9
%lm	proved % Followers	0.0		% Improved Avg	Speed	0.0
Suł	osegment Data					
#	Segment Type	Length, ft	Rad	dius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	5280	-		-	44.9
Veł	nicle Results					
Aver	age Speed, mi/h	44.9		Percent Followers	, %	28.2
Segr	nent Travel Time, minutes	1.34		Followers Density,	followers/mi/In	0.9
Vehi	cle LOS	A				
Copyri	ght © 2020 University of Florida. All Right	s Reserved. HCS	ซม Two-L	Lane Version 7.8		Generated: 12/06/2020 22:22:14

3_Lodi Ln - West of Project Driveway (WB) - Friday PM - F+P.xuf

	HCS7 Two-Lane Highway Report								
Pro	ject Information								
Anal	yst	КТ	Da	te		12/4/2020			
Ager	псу	W-Trans	An	alysis Year		2020			
Juris	diction	County of Napa	Tin	ne Period Analy	zed	Friday PM Future plus Project			
Proje	ect Description	Lodi Ln – East of Projec Driveway (EB) – Friday I	ct Un PM	Unit		United States Customary			
		Se	egmer	nt 1					
Veł	icle Inputs								
Segr	nent Type	Passing Constrained	Ler	ngth, ft		5280			
Lane	Width, ft	14	Sh	oulder Width, ft	t	0			
Spee	d Limit, mi/h	45	Ac	cess Point Dens	ity, pts/mi	11.0			
Der	nand and Capacity								
Direc	tional Demand Flow Rate, veh/h	91	Op	Opposing Demand Flow Rate, veh/h		-			
Peak	Hour Factor	1.00	Tot	tal Trucks, % 2.00		2.00			
Segr	nent Capacity, veh/h	1700	De	mand/Capacity	(D/C)	0.05			
Inte	ermediate Results								
Segn	nent Vertical Class	1	Fre	ee-Flow Speed,	mi/h	45.5			
Spee	d Slope Coefficient	3.02537	Sp	Speed Power Coefficient		0.41674			
PF SI	ope Coefficient	-1.38653	PF	PF Power Coefficient		0.71808			
In Pa	ssing Lane Effective Length?	No	Tot	tal Segment De	nsity, veh/mi/ln	0.4			
%lm	proved % Followers	0.0	%	Improved Avg S	speed	0.0			
Suk	osegment Data								
#	Segment Type	Length, ft	Radius,	ft	Superelevation, %	Average Speed, mi/h			
1	Tangent	5280	-		-	45.5			
Veł	icle Results								
Aver	age Speed, mi/h	45.5	Per	rcent Followers,	%	22.0			
Segn	nent Travel Time, minutes	1.32	Fol	llowers Density,	followers/mi/ln	0.4			
Vehi	cle LOS	A							
Copyri	opyright © 2020 University of Florida. All Rights Reserved. HCS1000 Two-Lane Version 7.8 Generated: 12/06/2020 22:22:45								

Copyright © 2020 University of Florida. All Rights Reserved. HCS100 Two-Lane Version 7.8 4_Lodi Ln – East of Project Driveway (EB) – Friday PM – F+P.xuf

		HCS7 Two-	-Lane	e Highway Re	eport	
Pro	ject Information					
Ana	yst	KT		Date		12/4/20
Age	ncy	W-Trans		Analysis Year		2020
Juris	diction	County of Napa		Time Period Analy	zed	Friday PM Future plus Project
Proj	ect Description	Lodi Ln – East of Project Driveway (WB) – Friday PM		Unit I		United States Customary
			Segr	ment 1		
Vel	nicle Inputs					
Segi	nent Type	Passing Constraine	d	Length, ft		5280
Lane	e Width, ft	14		Shoulder Width, f	t	0
Spee	ed Limit, mi/h	45		Access Point Dens	iity, pts/mi	0.0
De	mand and Capacity					
Dire	ctional Demand Flow Rate, veh/h	129		Opposing Deman	d Flow Rate, veh/h	-
Peak	Hour Factor	1.00		Total Trucks, %		2.00
Segi	ment Capacity, veh/h	1700		Demand/Capacity	r (D/C)	0.08
Int	ermediate Results					
Seg	ment Vertical Class	1		Free-Flow Speed, mi/h 48.2		
Spee	ed Slope Coefficient	3.17442		Speed Power Coe	fficient	0.41674
PF S	lope Coefficient	-1.37589		PF Power Coefficie	ppposing Demand Flow Rate, veh/h - otal Trucks, % 2.00 emand/Capacity (D/C) 0.08 ree-Flow Speed, mi/h 48.2 peed Power Coefficient 0.41674 F Power Coefficient 0.72723 otal Segment Density, veh/mi/ln 0.7 upproved Avg Speed 0.0	
In Pa	assing Lane Effective Length?	No		Total Segment De	nsity, veh/mi/ln	0.7
%lm	proved % Followers	0.0		% Improved Avg S	Speed	0.0
Sul	osegment Data					
#	Segment Type	Length, ft	Ra	dius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	5280	-		-	47.5
Vel	nicle Results				·	
Ave	age Speed, mi/h	47.5		Percent Followers,	, %	26.7
Seg	ment Travel Time, minutes	1.26		Followers Density,	followers/mi/ln	0.7
Vehi	cle LOS	A				
Copyr	ight © 2020 University of Florida. All Right	s Reserved. HCS	STMA Two-	Lane Version 7.8		Generated: 12/06/2020 22:23:18

4_Lodi Ln – East of Project Driveway (WB) – Friday PM – F+P.xuf

		HCS7 Two-La	ne Highway R	eport					
Pro	Project Information								
Anal	yst	КТ	Date		12/4/20				
Ager	псу	W-Trans	Analysis Year		2020				
Juris	diction	County of Napa	Time Period Anal	yzed	Friday PM Future plus Project				
Proje	ect Description	Silverado Trail – North o Lodi Lane (NB) – Friday	of Unit PM		United States Customary				
		Se	gment 1						
Veł	nicle Inputs								
Segr	nent Type	Passing Constrained	Length, ft		5280				
Lane	Width, ft	12	Shoulder Width,	ft	6				
Spee	ed Limit, mi/h	45	Access Point Den	sity, pts/mi	5.0				
Dei	mand and Capacity								
Dire	ctional Demand Flow Rate, veh/h	445	Opposing Demar	nd Flow Rate, veh/h	-				
Peak	Hour Factor	1.00	Total Trucks, %		2.00				
Segr	nent Capacity, veh/h	1700	Demand/Capacit	y (D/C)	0.26				
Inte	ermediate Results								
Segr	nent Vertical Class	1	Free-Flow Speed,	Free-Flow Speed, mi/h 50.0					
Spee	ed Slope Coefficient	3.26927	Speed Power Coe	Opposing Demand Flow Rate, veh/h - otal Trucks, % 2.00 Demand/Capacity (D/C) 0.26 ree-Flow Speed, mi/h 50.0 peed Power Coefficient 0.41674 'F Power Coefficient 0.73272 otal Segment Density, veh/mi/ln 4.9 6 Improved Avg Speed 0.0					
PF S	lope Coefficient	-1.36736	PF Power Coeffic	ient	0.73272				
In Pa	issing Lane Effective Length?	No	Total Segment De	pposing Demand Flow Rate, veh/h - tal Trucks, % 2.00 mand/Capacity (D/C) 0.26 re-Flow Speed, mi/h 50.0 eee Power Coefficient 0.41674 Power Coefficient 0.73272 tal Segment Density, veh/mi/ln 4.9 Improved Avg Speed 0.0					
%lm	proved % Followers	0.0	% Improved Avg	Speed	0.0				
Sub	osegment Data								
#	Segment Type	Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h				
1	Tangent	5280	-	-	47.9				
Veł	nicle Results								
Aver	age Speed, mi/h	47.9	Percent Followers	5, %	53.0				
Segr	nent Travel Time, minutes	1.25	Followers Density	ı, followers/mi/ln	4.9				
Vehi	cle LOS	В							
Copyri	opyright © 2020 University of Florida. All Rights Reserved. HCSTMI Two-Lane Version 7.8 Generated: 12/06/2020 22:23:4								

Copyright © 2020 University of Florida. All Rights Reserved. HCS 100 Two-Lane Version 7.8 5_Silverado Trail – North of Lodi Lane (NB) – Friday PM – F+P.xuf

		HCS7 Two-	Lane	e Highway R	eport	
Pro	ject Information					
Anal	yst	КТ		Date		12/4/20
Age	ncy	W-Trans		Analysis Year		2020
Juris	diction	County of Napa		Time Period Analy	zed	Friday PM Future plus Project
Proj	ect Description	Silverado Trail – No Lodi Lane (SB) – Fri	orth of iday PM	M Unit		United States Customary
			Seg	ment 1		
Veł	nicle Inputs					
Segr	nent Type	Passing Constraine	d	Length, ft		5280
Lane	e Width, ft	12		Shoulder Width, f	t	6
Spee	ed Limit, mi/h	45		Access Point Dens	sity, pts/mi	1.0
De	mand and Capacity					
Dire	ctional Demand Flow Rate, veh/h	419		Opposing Demand Flow Rate, veh/h		-
Peak	Hour Factor	1.00		Total Trucks, %		2.00
Segr	ment Capacity, veh/h	1700		Demand/Capacity	r (D/C)	0.25
Int	ermediate Results					
Segr	ment Vertical Class	1		Free-Flow Speed,	mi/h	51.0
Spee	ed Slope Coefficient	3.32347		Speed Power Coe	fficient	0.41674
PF S	lope Coefficient	-1.36191		PF Power Coeffici	ent	0.73576
In Pa	assing Lane Effective Length?	No		Total Segment De	nsity, veh/mi/ln	4.4
%lm	proved % Followers	0.0		% Improved Avg	Speed	0.0
Sul	osegment Data					
#	Segment Type	Length, ft	Ra	adius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	5280	-		-	48.9
Veł	nicle Results					
Aver	age Speed, mi/h	48.9		Percent Followers	, %	51.2
Segr	ment Travel Time, minutes	1.23		Followers Density	, followers/mi/ln	4.4
Vehi	cle LOS	В				
Copyri	aht © 2020 University of Florida. All Rights	Reserved. HC	STRAI Two-	-Lane Version 7.8		Generated: 12/06/2020 22:24:1

5_Silverado Trail – North of Lodi Lane (SB) – Friday PM – F+P.xuf

		HCS7 Two-Lar	ne Highway R	eport					
Pro	Project Information								
Anal	yst	КТ	Date		12/4/20				
Ager	псу	W-Trans	Analysis Year		2020				
Juris	diction	County of Napa	Time Period Analy	/zed	Friday PM Future plus Project				
Proje	ect Description	Silverado Trail – South o Lodi Lane (NB) – Friday	f Unit PM		United States Customary				
		Se	gment 1						
Veł	nicle Inputs								
Segr	nent Type	Passing Constrained	Length, ft		5280				
Lane	Width, ft	12	Shoulder Width, f	t	6				
Spee	ed Limit, mi/h	45	Access Point Den	sity, pts/mi	5.0				
Dei	mand and Capacity								
Dire	ctional Demand Flow Rate, veh/h	483	Opposing Deman	d Flow Rate, veh/h	-				
Peak	Hour Factor	1.00	Total Trucks, %		2.00				
Segr	nent Capacity, veh/h	1700	Demand/Capacity	/ (D/C)	0.28				
Inte	ermediate Results								
Segr	nent Vertical Class	1	Free-Flow Speed,	Free-Flow Speed, mi/h 50.0					
Spee	ed Slope Coefficient	3.26927	Speed Power Coe	fficient	0.41674				
PF S	lope Coefficient	-1.36736	PF Power Coeffici	ent	0.73272				
In Pa	issing Lane Effective Length?	No	Total Segment De	nsity, veh/mi/ln	5.6				
%lm	proved % Followers	0.0	% Improved Avg	Speed	0.0				
Sub	osegment Data								
#	Segment Type	Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h				
1	Tangent	5280	-	-	47.8				
Veł	nicle Results	· · ·							
Aver	age Speed, mi/h	47.8	Percent Followers	, %	55.2				
Segr	nent Travel Time, minutes	1.26	Followers Density	, followers/mi/ln	5.6				
Vehi	cle LOS	С							
opyri	opyright © 2020 University of Florida. All Rights Reserved. HCS1000 Two-Lane Version 7.8 Generated: 12/06/2020 22:28:2								

Copyright © 2020 University of Florida. All Rights Reserved. HCS 100 Two-Lane Version 7.8 6_Silverado Trail – South of Lodi Lane (NB) – Friday PM – F+P.xuf

		HCS7 Two-La	ane	Highway Re	eport	
Pro	ject Information					
Anal	yst	KT		Date		12/4/20
Ager	псу	W-Trans		Analysis Year		2020
Juris	diction	County of Napa		Time Period Analy	zed	Friday PM Future plus Project
Proje	ect Description	Silverado Trail – South Lodi Lane (SB) – Friday	i of y PM	Unit		United States Customary
		S	egn	nent 1		
Veł	nicle Inputs					
Segr	nent Type	Passing Constrained		Length, ft		5280
Lane	Width, ft	12		Shoulder Width, f	t	6
Spee	ed Limit, mi/h	45		Access Point Density, pts/mi		1.0
Dei	mand and Capacity					
Dire	ctional Demand Flow Rate, veh/h	419		Opposing Demand Flow Rate, veh/h		-
Peak	Hour Factor	1.00		Total Trucks, %		2.00
Segr	nent Capacity, veh/h	1700		Demand/Capacity	r (D/C)	0.25
Inte	ermediate Results					
Segr	nent Vertical Class	1		Free-Flow Speed, mi/h 51.0		
Spee	ed Slope Coefficient	3.32347		Speed Power Coe	fficient	0.41674
PF S	lope Coefficient	-1.36191		PF Power Coefficie	ent	0.73576
In Pa	assing Lane Effective Length?	No		Total Segment De	nsity, veh/mi/ln	4.4
%lm	proved % Followers	0.0		% Improved Avg S	Speed	0.0
Sul	osegment Data					
#	Segment Type	Length, ft	Rac	dius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	5280	-		-	48.9
Veł	nicle Results					
Aver	age Speed, mi/h	48.9		Percent Followers	, %	51.2
Segr	nent Travel Time, minutes	1.23		Followers Density	, followers/mi/ln	4.4
Vehi	cle LOS	В				
Copyri	aht © 2020 University of Florida, All Rights	Reserved HCSTM	Two-I	ane Version 7.8		Generated: 12/06/2020 22:28:58

6_Silverado Trail – South of Lodi Lane (SB) – Friday PM – F+P.xuf

			HCS7 Two-I	_ane	High	vay Re	eport	
Pre	oject Infor	mation						
Ana	ilyst		КТ		Date			6/2/2021
Age	ency		W-Trans		Analysis	Year		2021
Juri	sdiction		County of Napa		Time Per	iod Analy	zed	Saturday PM Future plus Project
Pro	ject Descriptio	'n	SR 29 – North of Loo (NB) – Saturday PM	di Lane	Unit			United States Customary
				Segn	nent 1			
Ve	hicle Inpu	ts						
Seg	ment Type		Passing Constrained		Length,	ft		5280
Lan	e Width, ft		12		Shoulde	r Width, f	t	6
Spe	ed Limit, mi/h		50		Access Point Density, pts/mi		iity, pts/mi	4.0
De	mand and	l Capacity						
Dire	ectional Dema	nd Flow Rate, veh/h	1018		Opposin	g Deman	d Flow Rate, veh/h	-
Pea	k Hour Factor		1.00		Total Tru	cks, %		2.00
Seg	ment Capacity	/, veh/h	1700		Demand	Demand/Capacity (D/C)		0.60
Int	ermediate	e Results						
Seg	ment Vertical	Class	1		Free-Flo	w Speed,	Speed, mi/h 55.9	
Spe	ed Slope Coef	fficient	3.59176		Speed P	ower Coe	peed, mi/h 55.9 er Coefficient 0.41674	
PF S	Slope Coefficie	ent	-1.32959		PF Power Coefficient		ent	0.74990
In P	assing Lane Ef	ffective Length?	No		Total Seg	gment De	nsity, veh/mi/ln	14.4
%In	nproved % Fol	lowers	0.0		% Impro	ved Avg S	Speed	0.0
Su	bsegment	Data						
#	Segment Ty	/pe	Length, ft	Rac	lius, ft		Superelevation, %	Average Speed, mi/h
1	Tangent		5280	-			-	52.5
Ve	hicle Resu	lts						
Ave	rage Speed, m	ni/h	52.5		Percent	Followers,	. %	74.0
Segment Travel Time, minutes 1.14			Follower	Density,	followers/mi/ln	14.4		
Veh	Vehicle LOS D							
Fa	cility Resu	lts						
	т	Follower	Density, followers/m	i/ln			LC	S
	1		14.4				D)
Codv	riaht © 2021 Uni	versity of Florida. All Rights	Reserved. HCS1	M Two-L	ane Version	7.9		Generated: 05/31/2021 18:51:2

HCSTM Two-Lane Version 7.9 1_SR 29 – North of Lodi Lane (NB) – Saturday PM – F+P.xuf

	HCS7 Two-La	ne Hi	ighway	Report	
Project Information					
Analyst	KT	Da	ate		6/2/2021
Agency	W-Trans	An	nalysis Year		2021
Jurisdiction	County of Napa	Tir	me Period An	alyzed	Saturday PM Future plus Project
Project Description	SR 29 – North of Lodi L (SB) – Saturday PM	Lane Ur	nit		United States Customary
	Se	egmei	nt 1		
Vehicle Inputs					
Segment Type	Passing Constrained	Le	ngth, ft		5280
Lane Width, ft	12	Sh	oulder Width	ı, ft	6
Speed Limit, mi/h	50	Ac	cess Point De	ensity, pts/mi	10.0
Demand and Capacity	·				·
Directional Demand Flow Rate, veh/h	980	Op	pposing Dem	and Flow Rate, veh/h	-
Peak Hour Factor	1.00	To	Total Trucks, %		2.00
Segment Capacity, veh/h	1700	De	Demand/Capacity (D/C)		0.58
Intermediate Results	-				<u> </u>
Segment Vertical Class	1	Fre	ee-Flow Spee	Flow Speed, mi/h 54.4	
Speed Slope Coefficient	3.51046	Sp	eed Power C	oefficient	0.41674
PF Slope Coefficient	-1.34026	PF	Power Coeff	icient	0.74575
In Passing Lane Effective Length?	No	To	tal Segment	Density, veh/mi/ln	14.1
%Improved % Followers	0.0	%	Improved Avg Speed		0.0
Subsegment Data					
# Segment Type	Length, ft	Radius,	ft	Superelevation, %	Average Speed, mi/h
1 Tangent	5280	-		-	51.1
Vehicle Results					
Average Speed, mi/h	51.1	Pe	ercent Followe	ers, %	73.3
Segment Travel Time, minutes	1.17	Fo	llower Densit	y, followers/mi/ln	14.1
Vehicle LOS D					
Facility Results					
T Follower	Density, followers/mi/l	n		LC)S
1	14.1			C)
Copyright © 2021 University of Florida. All Rights	Reserved. HCS 100 1 1 SR 29 – North of Lod	Two-Lane \ li Lane (SB)	Version 7.9) – Saturday PM	– F+P.xuf	Generated: 05/31/2021 18:52:13

	HCS7 Two-Lane Highway Report							
Pro	oject Infor	mation						
Ana	lyst		КТ		Date			6/2/2021
Age	ency		W-Trans		Analysis Year			2021
Juris	sdiction		County of Napa	County of Napa		iod Analy	zed	Saturday PM Future plus Project
Proj	Project Description SR 29 – South of Lodi Lane (NB) – Saturday PM		Unit			United States Customary		
				Segn	nent 1			
Ve	hicle Inpu	ts						
Seg	ment Type		Passing Constrained		Length,	ft		5280
Lane	e Width, ft		12		Shoulde	r Width, f	t	6
Spe	ed Limit, mi/h		50		Access P	oint Dens	ity, pts/mi	4.0
De	mand and	Capacity						
Directional Demand Flow Rate, veh/h		1028		Opposing Demand Flow Rate, veh/h			-	
Peal	Peak Hour Factor		1.00	1.00		cks, %		2.00
Seg	ment Capacity	r, veh/h	1700		Demand/Capacity (D/C)		(D/C)	0.60
Int	ermediate	Results						
Seg	ment Vertical	Class	1		Free-Flow Speed, mi/h			55.9
Spe	ed Slope Coef	ficient	3.59176		Speed Power Coefficient			0.41674
PF S	lope Coefficie	nt	-1.32959	-1.32959		r Coefficie	ent	0.74990
In P	assing Lane Ef	fective Length?	No		Total Segment Density, veh/mi/ln			14.6
%lm	nproved % Fol	lowers	0.0		% Improved Avg Speed			0.0
Su	bsegment	Data						
#	Segment Ty	ре	Length, ft	Rad	lius, ft		Superelevation, %	Average Speed, mi/h
1	Tangent		5280	-			-	52.5
Ve	hicle Resu	lts						
Ave	rage Speed, m	ii/h	52.5		Percent	Followers,	. %	74.3
Seg	Segment Travel Time, minutes 1.14		1.14		Follower	Follower Density, followers/mi/ln		14.6
Veh	icle LOS		D					
Fac	cility Resu	lts						
	т	Follower	Density, followers/mi	/In		LOS		
	1		14.6		D)
Copyright © 2021 University of Florida. All Rights Reserved. HCSTM Two-Lar			ane Version 7.9 Generated: 05/31/2021 18:52:4					

HCSTM Two-Lane Version 7.9 2_SR 29 – South of Lodi Lane (NB) – Saturday PM – F+P.xuf

	HCS7 Two	o-Lane	Highv	vay Re	eport	
Project Information						
Analyst	КТ		Date			6/2/2021
Agency	W-Trans		Analysis Year			2021
Jurisdiction	County of Napa	County of Napa		iod Analy	zed	Saturday PM Future plus Project
Project Description	SR 29 – South of (SB) – Saturday P	SR 29 – South of Lodi Lane (SB) – Saturday PM				United States Customary
		Segn	nent 1			
Vehicle Inputs						
Segment Type	Passing Constrair	ned	Length, f	ft		5280
Lane Width, ft	12		Shoulde	r Width, ft	:	6
Speed Limit, mi/h	50		Access P	oint Dens	ity, pts/mi	10.0
Demand and Capacity						
Directional Demand Flow Rate, veh/h	991	991		g Deman	d Flow Rate, veh/h	-
Peak Hour Factor	1.00		Total Tru	cks, %		2.00
Segment Capacity, veh/h	1700		Demand/Capacity (D/C)			0.58
Intermediate Results						
Segment Vertical Class	1	1		w Speed,	mi/h	54.4
Speed Slope Coefficient	3.51046		Speed Power Coefficient			0.41674
PF Slope Coefficient	-1.34026	-1.34026		r Coefficie	ent	0.74575
In Passing Lane Effective Length?	No		Total Seg	gment De	nsity, veh/mi/ln	14.3
%Improved % Followers	0.0	0.0		ved Avg S	peed	0.0
Subsegment Data						
# Segment Type	Length, ft	Rac	lius, ft		Superelevation, %	Average Speed, mi/h
1 Tangent	5280	-			-	51.1
Vehicle Results						
Average Speed, mi/h	51.1		Percent I	Followers,	%	73.6
Segment Travel Time, minutes	1.17		Follower	Density, f	followers/mi/ln	14.3
Vehicle LOS D						
Facility Results			1			
T Followe	er Density, followers	/mi/ln			LC	lis
1	14.3				C)
Copyright © 2021 University of Florida. All Right	s Reserved. H 2_SR 29 – South	ICS 1100 Two-L of Lodi Lane	ane Version (SB) – Satu	7.9 rday PM – F	+P.xuf	Generated: 05/31/2021 18:53:17

		HCS7 Two	o-Lane	Highv	vay Re	eport	
Project Info	ormation						
Analyst		КТ		Date			6/2/2021
Agency		W-Trans		Analysis	Year		2021
Jurisdiction		County of Napa		Time Perio		zed	Saturday PM Future plus Project
Project Descript	ion	Lodi Ln – West o Driveway (EB) – S PM	Lodi Ln – West of Project Unit Driveway (EB) – Saturday PM				United States Customary
			Segr	nent 1			
Vehicle Inp	uts						
Segment Type		Passing Constrai	ned	Length, f	it		5280
Lane Width, ft		14		Shoulder	r Width, fl	t	0
Speed Limit, mi	/h	45		Access P	oint Dens	ity, pts/mi	11.0
Demand ar	nd Capacity						·
Directional Den	hand Flow Rate, veh/h	56		Opposing Demand Flow Rate, veh/h			-
Peak Hour Facto	or	1.00		Total Trucks, %			2.00
Segment Capac	ity, veh/h	1700		Demand	/Capacity	(D/C)	0.03
Intermedia	te Results						
Segment Vertic	al Class	1	1 Fr		w Speed,	mi/h	45.5
Speed Slope Co	efficient	3.02537		Speed Po	ower Coet	fficient	0.41674
PF Slope Coeffi	cient	-1.38653		PF Power Coefficient			0.71808
In Passing Lane	Effective Length?	No		Total Segment Density, veh/mi/ln			0.2
%Improved % F	ollowers	0.0		% Improved Avg Speed			0.0
Subsegme	nt Data						·
# Segment	Туре	Length, ft	Rad	dius, ft		Superelevation, %	Average Speed, mi/h
1 Tangent		5280	-			-	45.5
Vehicle Res	ults						-
Average Speed,	mi/h	45.5		Percent F	ollowers,	%	16.1
Segment Travel Time, minutes 1.32			Follower Density, followers/mi/ln		0.2		
Vehicle LOS A							
Facility Res	ults						
т	Followe	r Density, follower	s/mi/ln			LC	95
1		0.2			A		
Copyright © 2021 L	Iniversity of Florida. All Rights	Reserved.	HCS100 Two-L	ane Version	7.9		Generated: 05/31/2021 18:53:45

Reserved. HCS1000 Two-Lane Version 7.9 3_Lodi Ln – West of Project Driveway (EB) – Saturday PM – F+P.xuf Copyright © 2021 University of Florida. All Rights Reserved.

			HCS7 Two-	Lane	Highv	vay Re	eport	
Pro	ject Infor	mation						
Anal	yst		КТ		Date			6/2/2021
Ager	псу		W-Trans		Analysis	Year		2021
uris	diction		County of Napa		Time Per	iod Analy	zed	Saturday PM Future plus Project
Proj∉	ect Description	1	Lodi Ln – West of F Driveway (WB) – Sa PM	u – West of Project U ay (WB) – Saturday		Unit		United States Customary
				Segn	nent 1			
Veł	nicle Input	s						
Segr	nent Type		Passing Constraine	d	Length, f	t		5280
ane	Width, ft		14		Shoulder	r Width, ft	:	0
Spee	ed Limit, mi/h		45		Access P	oint Dens	ity, pts/mi	10.0
Dei	mand and	Capacity						
Directional Demand Flow Rate, veh/h		60		Opposin	g Deman	d Flow Rate, veh/h	-	
Peak Hour Factor		1.00		Total Tru	cks, %		2.00	
Segment Capacity, veh/h 1700		1700		Demand	/Capacity	(D/C)	0.04	
nte	ermediate	Results						
Segr	ment Vertical (Class	1		Free-Flov	w Speed,	mi/h	45.7
Spee	ed Slope Coeff	icient	3.03892		Speed Power Coefficient			0.41674
PF S	lope Coefficie	nt	-1.38571	-1.38571		r Coefficie	ent	0.71894
n Pa	issing Lane Eff	ective Length?	No		Total Segment Density, veh/mi/ln			0.2
%lm	proved % Foll	owers	0.0		% Impro	ved Avg S	peed	0.0
Suł	osegment	Data						
ŧ	Segment Ty	be	Length, ft	Rad	lius, ft		Superelevation, %	Average Speed, mi/h
1	Tangent		5280	-			-	45.7
Veł	nicle Resul	ts						
Average Speed, mi/h 45.7				Percent I	ollowers,	%	16.8	
Segment Travel Time, minutes 1.31			Follower	Density,	followers/mi/In	0.2		
/ehicle LOS A								
Fac	ility Resul	ts						
	т	Follower	Density, followers/r	mi/ln			LO	s
	1		0.2				A	
opyri	ght © 2021 Univ	ersity of Florida. All Rights F	Reserved. HCS	STNA Two-L	ane Version	7.9		Generated: 05/31/2021 18:54:36

Reserved. HCS1100 Two-Lane Version 7.9 3_Lodi Ln – West of Project Driveway (WB) – Saturday PM – F+P.xuf Copyright © 2021 University of Florida. All Rights Reserved.

			HCS7 Two-	Lane	High	vay Re	eport	
Pro	ject Infor	mation						
Anal	lyst		КТ		Date			6/2/2021
Ager	ncy		W-Trans		Analysis Year			2021
Juris	diction		County of Napa	County of Napa		iod Analy	zed	Saturday PM Future plus Project
Proje	oject Description Lodi Ln – East of Project Driveway (EB) – Saturday PM		Unit			United States Customary		
				Segn	nent 1			
Veł	nicle Inpu	ts						
Segr	ment Type		Passing Constraine	d	Length,	it		5280
Lane	e Width, ft		14		Shoulde	r Width, ft	:	0
Spee	ed Limit, mi/h		45		Access P	oint Dens	ity, pts/mi	0.0
Dei	mand and	l Capacity	-					·
Directional Demand Flow Rate, veh/h			56		Opposin	g Demano	d Flow Rate, veh/h	-
Peak Hour Factor		1.00		Total Tru	cks, %		3.00	
Segment Capacity, veh/h		1700		Demand	/Capacity	(D/C)	0.03	
Inte	ermediate	Results	<u>.</u>					
Segr	ment Vertical	Class	1		Free-Flow Speed, mi/h			48.2
Spee	ed Slope Coef	ficient	3.17262		Speed P	ower Coef	ficient	0.41674
PF S	lope Coefficie	ent	-1.37591 PF		PF Powe	r Coefficie	ent	0.72726
In Pa	assing Lane Ef	fective Length?	No		Total Seg	otal Segment Density, veh/mi/ln		0.2
%lm	proved % Fol	lowers	0.0		% Impro	ved Avg S	peed	0.0
Sub	bsegment	Data						·
#	Segment Ty	pe	Length, ft	Rad	dius, ft		Superelevation, %	Average Speed, mi/h
1	Tangent		5280	-			-	48.2
Veł	nicle Resu	lts					<u> </u>	
Aver	age Speed, m	ni/h	48.2		Percent	ollowers,	%	15.6
Segment Travel Time, minutes 1.24				Follower Density, followers/mi/ln			0.2	
Vehi	cle LOS		A					
Fac	ility Resu	lts						
	т	Follower	Density, followers/r	ni/ln		LOS		
	1		0.2			A		
Copyri	ight © 2021 Uni	versity of Florida. All Rights	Reserved. HCS	TMI Two-L	ane Version	7.9		Generated: 05/31/2021 18:55:1

4_Lodi Ln – East of Project Driveway (EB) – Saturday PM – F+P.xuf

		HCS7 Two-	Lane	Highv	vay Re	eport	
Project Info	mation						
Analyst		КТ		Date			6/2/2021
gency		W-Trans		Analysis Year		2021	
urisdiction		County of Napa		Time Per	iod Analy	zed	Saturday PM Future plus Project
roject Descriptio	n	Lodi Ln – East of Project Driveway (WB) – Saturday PM		Unit			United States Customary
			Segn	nent 1			
/ehicle Inpu	ts						
egment Type		Passing Constrained	d	Length, f	t		5280
ane Width, ft		14		Shoulder	Width, f	:	0
peed Limit, mi/h		45	45		oint Dens	ity, pts/mi	0.0
Demand and	l Capacity						
irectional Dema	nd Flow Rate, veh/h	70		Opposin	g Deman	d Flow Rate, veh/h	-
Peak Hour Factor		1.00		Total True	cks, %		3.00
egment Capacity, veh/h 1700		1700		Demand,	/Capacity	(D/C)	0.04
ntermediate	e Results						
egment Vertical	Class	1		Free-Flow Speed, mi/h			48.2
peed Slope Coe	ficient	3.17262		Speed Power Coefficient			0.41674
F Slope Coefficie	ent	-1.37591		PF Power Coefficient			0.72726
n Passing Lane E	fective Length?	No	No		ment De	nsity, veh/mi/ln	0.3
6Improved % Fol	lowers	0.0		% Improved Avg Speed			0.0
Subsegment	Data						
Segment Ty	pe	Length, ft	Rad	lius, ft		Superelevation, %	Average Speed, mi/h
Tangent		5280	-			-	48.2
/ehicle Resu	lts					·	
werage Speed, n	ni/h	48.2		Percent F	ollowers,	%	18.0
egment Travel Time, minutes 1.24			Follower	Density,	followers/mi/ln	0.3	
ehicle LOS		A					
acility Resu	lts						
т	Follower	Density, followers/n	ni/ln		LOS		
1		0.3				Α	
pyright © 2021 Uni	versity of Florida. All Rights	Reserved. HCS	TMI Two-L	ane Version	7.9		Generated: 05/31/2021 18:56:12

Copyright © 2021 University of Florida. All Rights Reserved. HCSTM Two-Lane Version 7.9 4_Lodi Ln – East of Project Driveway (WB) – Saturday PM – F+P.xuf

		HCS7 Two	o-Lane	Highv	vay Re	eport	
Project I	nformation						
Analyst		КТ		Date			6/2/2021
Agency		W-Trans		Analysis	Year		2021
Jurisdiction		County of Napa		Time Per	iod Analy	zed	Saturday PM Future plus Project
Project Dese	cription	Silverado Trail – North of Lodi Lane (NB) – Saturday PM		Unit	Unit		United States Customary
			Segn	nent 1			
Vehicle I	nputs						
Segment Ty	ре	Passing Constrai	ned	Length, f	ft		5280
Lane Width,	ft	12		Shoulder	r Width, fl	t	6
Speed Limit	, mi/h	45	45		oint Dens	ity, pts/mi	5.0
Demand	and Capacity						
Directional Demand Flow Rate, veh/h		423		Opposin	g Deman	d Flow Rate, veh/h	-
Peak Hour Factor		1.00		Total Tru	cks, %		3.00
Segment Capacity, veh/h		1700		Demand	/Capacity	(D/C)	0.25
Interme	diate Results	·					
Segment Ve	ertical Class	1		Free-Flow Speed, mi/h			50.0
Speed Slope	e Coefficient	3.26747		Speed Power Coefficient		fficient	0.41674
PF Slope Co	efficient	-1.36740		PF Power Coefficient		ent	0.73276
In Passing L	ane Effective Length?	No		Total Segment Density, veh/mi/ln		nsity, veh/mi/ln	4.6
%Improved	% Followers	0.0		% Impro	ved Avg S	speed	0.0
Subsegn	nent Data						
# Segm	ent Type	Length, ft	Rac	lius, ft		Superelevation, %	Average Speed, mi/h
1 Tange	nt	5280	-			-	47.9
Vehicle I	Results					1	
Average Spe	eed, mi/h	47.9		Percent I	Followers,	%	51.7
Segment Travel Time, minutes 1.25			Follower	Density,	followers/mi/ln	4.6	
Vehicle LOS		В					
Facility F	Results						
т	Follower	Density, follower	s/mi/ln		LOS		
1		4.6			В		
Copyright © 2021 University of Florida. All Rights Reserved. HCS100 Two-Lane				ane Version 7.9 Generated: 05/31/2021 18:58:			

Copyright © 2021 University of Florida. All Rights Reserved. HCS1990 Two-Lane Version 7.9 5_Silverado Trail – North of Lodi Lane (NB) – Saturday PM – F+P.xuf

	HCS7 Two-La	ne Higl	nway R	eport		
Project Information						
Analyst	КТ	Date			6/2/2021	
Agency	W-Trans	Analy	Analysis Year		2021	
Jurisdiction	County of Napa	Time	Period Analy	/zed	Saturday PM Future plus Project	
Project Description	Silverado Trail – North Lodi Lane (SB) – Saturo PM	of Unit day			United States Customary	
	Se	egment	1			
Vehicle Inputs						
Segment Type	Passing Constrained	Lengt	n, ft		5280	
Lane Width, ft	12	Shoul	der Width, f	t	6	
Speed Limit, mi/h	45	Acces	Point Den	sity, pts/mi	1.0	
Demand and Capacity						
Directional Demand Flow Rate, veh/h	382	Орро	ing Deman	d Flow Rate, veh/h	-	
Peak Hour Factor	1.00	Total ⁻	rucks, %		3.00	
Segment Capacity, veh/h	1700	Dema	nd/Capacity	/ (D/C)	0.22	
Intermediate Results						
Segment Vertical Class	1	Free-F	low Speed,	mi/h	51.0	
Speed Slope Coefficient	3.32167	Speed P		fficient	0.41674	
PF Slope Coefficient	-1.36197	PF Power Coefficient			0.73580	
In Passing Lane Effective Length?	No	Total S	Segment Density, veh/mi/ln		3.8	
%Improved % Followers	0.0	% Imp	roved Avg	Speed	0.0	
Subsegment Data						
# Segment Type	Length, ft	Radius, ft		Superelevation, %	Average Speed, mi/h	
1 Tangent	5280	-		-	49.0	
Vehicle Results						
Average Speed, mi/h	Average Speed, mi/h 49.0				48.9	
Segment Travel Time, minutes 1.22		Follov	er Density,	followers/mi/ln	3.8	
Vehicle LOS B						
Facility Results						
T Followe	r Density, followers/mi/l	In		LOS		
1	3.8		В			
Copyright © 2021 University of Florida. All Rights	Reserved. HCSTM	Two-Lane Versi	on 7.9		Generated: 05/31/2021 18:58:44	

tt © 2021 University of Florida. All Rights Reserved. HCS1WW IWo-Lane version 7.9 5_Silverado Trail – North of Lodi Lane (SB) – Saturday PM – F+P.xuf

		HCS7 Two	o-Lane	Highv	vay Re	eport	
Project I	nformation						
Analyst		KT		Date			6/2/2021
Agency		W-Trans		Analysis	Year		2021
Jurisdiction		County of Napa	County of Napa Time		iod Analy	zed	Saturday PM Future plus Project
Project Dese	cription	Silverado Trail – South of Lodi Lane (NB) – Saturday PM		Unit	Unit		United States Customary
			Segn	nent 1			
Vehicle I	nputs						
Segment Ty	ре	Passing Constrain	ned	Length, f	t		5280
Lane Width,	, ft	12		Shoulder	Width, ft		6
Speed Limit	;, mi/h	45		Access P	oint Dens	ity, pts/mi	5.0
Demand	and Capacity						
Directional	Demand Flow Rate, veh/h	443		Opposin	g Demano	d Flow Rate, veh/h	-
Peak Hour Factor		1.00		Total Tru	cks, %		3.00
Segment Capacity, veh/h		1700		Demand	/Capacity	(D/C)	0.26
Interme	diate Results						
Segment Ve	ertical Class	1		Free-Flow Speed, mi/h			50.0
Speed Slope	e Coefficient	3.26747		Speed Power Coefficient			0.41674
PF Slope Co	efficient	-1.36740	-1.36740 P		PF Power Coefficient		0.73276
In Passing L	ane Effective Length?	No		Total Seg	al Segment Density, veh/mi/ln		4.9
%Improved	% Followers	0.0		% Improved Avg Speed			0.0
Subsegn	nent Data						
# Segm	ent Type	Length, ft	Rac	dius, ft		Superelevation, %	Average Speed, mi/h
1 Tange	ent	5280	-			-	47.9
Vehicle I	Results						
Average Spe	eed, mi/h	47.9		Percent I	ollowers,	%	52.9
Segment Travel Time, minutes 1.25				Follower Density, followers/mi/ln			4.9
Vehicle LOS		В					
Facility F	Results						
т	Follower	Density, followers	s/mi/ln		LOS		
1		4.9		В			
Copyright © 2021 University of Florida. All Rights Reserved. HCSTMI Two-Lane Ver			ane Version	e Version 7.9 Generated: 05/31/2021 18:59:2			

Copyright © 2021 University of Florida. All Rights Reserved. HCS1990 Two-Lane Version 7.9 6_Silverado Trail – South of Lodi Lane (NB) – Saturday PM – F+P.xuf

	HCS7 Two	-Lane	Highv	vay Re	eport	
Project Information						
Analyst	KT		Date			6/2/2021
Agency	W-Trans		Analysis	Analysis Year		2021
Jurisdiction	County of Napa	County of Napa		iod Analy	zed	Saturday PM Future plus Project
Project Description	Silverado Trail – S Lodi Lane (SB) – S PM	Silverado Trail – South of Lodi Lane (SB) – Saturday PM				United States Customary
		Segn	nent 1			
Vehicle Inputs						
Segment Type	Passing Constrain	ed	Length, f	t		5280
Lane Width, ft	12		Shoulder	Width, f	t	6
Speed Limit, mi/h	45		Access P	oint Dens	ity, pts/mi	1.0
Demand and Capacity						-
Directional Demand Flow Rate,	/eh/h 385	385		g Deman	d Flow Rate, veh/h	-
Peak Hour Factor	1.00	1.00		cks, %		3.00
Segment Capacity, veh/h	1700		Demand	/Capacity	(D/C)	0.23
Intermediate Results	·					
Segment Vertical Class	1	1		w Speed,	mi/h	51.0
Speed Slope Coefficient	3.32167	3.32167		ower Coe	fficient	0.41674
PF Slope Coefficient	-1.36197		PF Power Coefficient			0.73580
In Passing Lane Effective Length	? No		Total Segment Density, veh/mi/ln		nsity, veh/mi/ln	3.9
%Improved % Followers	0.0		% Impro	mproved Avg Speed		0.0
Subsegment Data						
# Segment Type	Length, ft	Rac	lius, ft		Superelevation, %	Average Speed, mi/h
1 Tangent	5280	-			-	49.0
Vehicle Results	i				1	-1
Average Speed, mi/h	49.0		Percent F	ollowers,	%	49.1
Segment Travel Time, minutes 1.22			Follower	Density,	followers/mi/ln	3.9
Vehicle LOS B						
Facility Results						
TI	Follower Density, followers,	/mi/ln			LC	S
1	3.9			В		
Copyright © 2021 University of Florida.	All Rights Reserved. H0	CS1700/Two-L	ane Version	7.9		Generated: 05/31/2021 18:59:4

© 2021 University of Florida. All Rights Reserved. HLS1000 IV0-Lane Version 7.5 6_Silverado Trail – South of Lodi Lane (SB) – Saturday PM – F+P.xuf

Appendix E

Napa County Winery Traffic Information/Trip Generation Forms and Site-Specific Peak Hour Calculations




Existing Conditions Winery Traffic Information / Trip Generation

<u>Determine Winery Daily Trips.</u> Complete Sections A through I below to determine your winery project's estimated baseline daily and peak hour trips.

Proj	ect Name: Duckhorn Vineyards	Project Scenario:	Existing					
Section A. Maximum Daily Weekday Traffic (Friday, non-harvest season)								
1. 2. 3. 4. 5.	Total number of FT employees: Total number of PT employees: Maximum weekday visitors: Gallons of production: 160000	45x 3.05 one-way trips per employe5x 1.90 one-way trips per employe82/2.6 visitors per vehicle x 2 one-w/1,000 x 0.009 daily truck trips2 x 2 one-	e e ay trips way trips TOTAL	= _ = _ = _ = _	137.3 9.5 63.1 2.9 213	daily trips daily trips daily trips daily trips daily trips		
Sect	ion B. Maximum Daily Weekday T	raffic (Friday, harvest season)						
6. 7. 8. 9. 10. 11.	Total number of FT employees:Total number of PT employees:Maximum weekday visitors:Gallons of production:160000Avg. annual tons of grape on-haul:	45x 3.05 one-way trips per employe11x 1.90 one-way trips per employe82/2.6 visitors per vehicle x 2 one-w/1,000 x 0.009 daily truck trips2 x 2 one-880/ 144 truck trips x 2 one-way trips	e ay trips way trips s TOTAL	= _ = _ = _ = _	137.3 20.9 63.1 2.9 12.2 236	daily trips daily trips daily trips daily trips daily trips daily trips		
Sect	tion C. Maximum Daily Weekend T	raffic (Saturday, non-harvest seasor	<u>ı)</u>			_		
12. 13. 14. 15. 16.	Total number of FT Sat. employees: Total number of PT Sat. employees: Maximum Saturday visitors: Gallons of Production: <u>160000</u>	45 x 3.05 one-way trips per en 5 x 1.90 one-way trips per en 82 /2.8 visitors per vehicle x 2 one-w /1,000 x 0.009 daily truck trips x 2 one-v	nployee nployee ay trips vay trips TOTAL	= _ = _ = _ = _	137.3 9.5 58.6 2.9 208	daily trips daily trips daily trips daily trips daily trips		
Sect	tion D. Maximum Daily Weekend 1	raffic (Saturday, harvest season)		_				
 17. 18. 19. 20. 21. 22. 	Total number of FT Sat. employees: Total number of PT Sat. employees: Maximum Saturday visitors: Gallons of production: <u>160000</u> Avg. annual tons of grape on-haul:	45x 3.05 one-way trips per en11x 1.90 one-way trips per en82/2.8 visitors per vehicle x 2 one-w/1,000 x 0.009 daily truck trips2 x 2 one-880/ 144 truck trips x 2 one-way	nployee nployee ay trips way trips ay trips TOTAL	= _ = _ = _ = _	137.3 20.9 58.6 2.9 12.2 232	daily trips daily trips daily trips daily trips daily trips daily trips daily trips		
Sect	tion E. PM Peak Hour Trip Generat	ion (Friday, non-harvest season)		_		-		
	(Sum of daily trips from Sec. A, line	s 3 and 4) x 0.38 + (No. of FTE) + (line 2 /	2)	=	73	PM peak trips		
Section F. PM Peak Hour Trip Generation (Friday, harvest season)								
Sect	(Sum of daily trips, Sec. B, lines 8, 9 ion G. PM Peak Hour Trip Generat	, 10) x 0.38 + (No. of FTE) + (line 7 / 2) ion (Saturday, non-harvest season)		=	80	PM peak trips		
	(Daily trips from Sec. C, line 14 and	15) x 0.57 + (No. of FTE) + (line 13 / 2)		=	83	PM peak trips		
Section H. PM Peak Hour Trip Generation (Saturday, harvest season)								
	(Sum of daily trips Sec. D, lines 19, 2	20, 21) x 0.57 + (No. of FTE) + (line 18 / 2)	=	93	PM peak trips		
Section I. Maximum Annual Trips								
	(Sec. A, line 5 x 206) + (Sec. B, line 11 x	55) + (Sec. C, line 16 x 82) + (Sec. D, line 22 x	22)	=	79018	Annual trips		

Proposed Project Winery Traffic Information / Trip Generation

<u>Determine Winery Daily Trips.</u> Complete Sections J through R below to determine your winery project's estimated future and peak hour trips.

Pro	ject Name: Duckhorn Vineyards	Project Scenario:	Proposed		
<u>Sec</u>	tion J. Maximum Daily Weekday T	raffic (Friday, non-harves	t season)		
1. 2. 3. 4. 5.	Total number of FT employees:4!Total number of PT employees:5Maximum weekday visitors:21Gallons of production:300000/1,0	 x 3.05 one-way trips per em x 1.90 one-way trips per em /2.6 visitors per vehicle x 2 c 000 x 0.009 daily truck trips2 x 2 	ployee ployee one-way trips 2 one-way trips TOTAL	= 137 = 9.9 = 168 = 5.4 = 32	.3daily trips5daily trips6.5daily trips4daily trips1daily trips
<u>Sec</u>	tion K. Maximum Daily Weekday Traf	fic (Friday, harvest season)			
6. 7. 8. 9. 10. 11.	Total number of FT employees:49Total number of PT employees:11Maximum weekday visitors:21Gallons of production:300000Avg. annual tons of grape on-haul:170	 x 3.05 one-way trips per em x 1.90 one-way trips per em /2.6 visitors per vehicle x 2 co x 0.009 daily truck trips2 x 2 /144 truck trips x 2 one-wa 	ployee ployee one-way trips 2 one-way trips y trips TOTAL	= 137 = 20. = 168 = 5.4 = 23. = 35	.3 daily trips 9 daily trips 5.5 daily trips 4 daily trips 6 daily trips 6 daily trips
<u>Sec</u>	tion L. Maximum Daily Weekend Traf	fic (Saturday, non-harvest se	eason)		
12. 13. 14. 15. 16.	Total number of FT Sat. employees: Total number of PT Sat. employees: Maximum Saturday visitors: <u>21</u> Gallons of Production: <u>300000</u> /1,0	45 x 3.05 one-way trips p 5 x 1.90 one-way trips p 9 /2.8 visitors per vehicle x 2 c 000 x 0.009 daily truck trips x 2	per employee per employee one-way trips one-way trips TOTAL	= 137 = 9.9 = 156 = 5.4 = 30	.3 daily trips 5 daily trips 5.4 daily trips 4 daily trips 9 daily trips
<u>Sec</u>	tion M. Maximum Daily Weekend Tra	ffic (Saturday, harvest seaso	<u>on)</u>		
17. 18. 19. 20. 21. 22.	Total number of FT Sat. employees:Total number of PT Sat. employees:Maximum Saturday visitors:21Gallons of production:300000/1,0Avg. annual tons of grape on-haul:	45 x 3.05 one-way trips p 11 x 1.90 one-way trips p 9 /2.8 visitors per vehicle x 2 c 000 x 0.009 daily truck trips x 2 c 1700 / 144 truck trips x 2 c	per employee per employee pne-way trips 2 one-way trips pne-way trips TOTAL	$= 137 \\ = 20. \\ = 156 \\ = 5. \\ = 23. \\ = 34$.3daily trips9daily trips.4daily trips4daily trips.6daily trips4daily trips
<u>Sec</u>	tion N. PM Peak Hour Trip Generatior	n (Friday, non-harvest seaso	<u>n)</u>		
	(Sum of daily trips from Sec. J, lines 3 a	ind 4) x 0.38 + (No. of FTE) + (lir	ne 2 / 2)	= 11	4 PM peak trips
<u>Sec</u>	tion O. PM Peak Hour Trip Generatior (Sum of daily trips, Sec. K, lines 8, 9, 10	n (Friday, harvest season))) x 0.38 + (No. of FTE) + (line 7 ,	/ 2)	= 12	6 PM peak trips
<u>Sec</u>	tion P. PM Peak Hour Trip Generation	(Saturday, non-harvest sea	<u>son)</u>		
	(Daily trips from Sec. L, line 14 and 15)	x 0.57 + (No. of FTE) + (line 13	/ 2)	= 14	0 PM peak trips
<u>Sec</u>	tion Q. PM Peak Hour Trip Generatior	n (Saturday, harvest season)	_		
	(Sum of daily trips Sec. M, lines 19, 20,	21) x 0.57 + (No. of FTE) + (line	18 / 2)	= 15	6 PM peak trips
<u>Sec</u>	tion R. Maximum Annual Trips				
	(Sec. J, line 5 x 206) + (Sec. K, line 11 x 55) +	+ (Sec. L, line 16 x 82) + (Sec. M, line	e 22 x 22)	= 1186	512 Annual trips

SITE SPECIFIC PEAK HOUR PERCENTAGE TRIP GENERATION CALCULATIONS

Duckhorn Vineyards

Friday - Peak Hour of Generator								
			PM	PM Peak	Hour Vol		Peak Hour %	
	Day	Date	Peak Hour	In	Out	Daily Vol	of Daily	
1 Fric	lay	10/18/2020	2:00-3:00	29	29	423	14%	
8 Fric	lay	10/25/2019	2:00-3:00	31	23	379	14%	
AVERAGE			2:00-3:00	30	26	401	14%	
Inbound/Outbound Distribution				54%	46%			

Saturday - Peak Hour of Generator

		MD	MD Pea	k Hour Vol		Peak Hour %
Day	Date	Peak Hour	In	Out	Daily Vol	of Daily
2 Saturday	10/19/2019	12:00-1:00	35	28	392	16%
9 Saturday	10/26/2019	12:00-1:00	24	24	363	13%
AVERAGE		12:30-1:30	30	26	378	15%
Inbound/Outbound Di	53%	47%				

Weekly - Average Daily Traffic

			Peak H	our Vol		Peak Hour %
Day	Date	Peak Hour	In	Out	Daily Vol	of Daily
1 Friday	10/18/2020	2:00-3:00	29	29	423	14%
2 Saturday	10/19/2019	12:00-1:00	35	28	392	16%
3 Sunday	10/20/2019	1:00-2:00	14	24	249	15%
4 Monday	10/21/2020	3:00-4:00	15	20	271	13%
5 Tuesday	10/22/2020	4:00-5:00	3	27	256	12%
6 Wednesday	10/23/2020	4:00-5:00	4	29	255	13%
7 Thursday	10/24/2020	4:00-5:00	4	33	251	15%
ERAGE			15	27	300	14%



Appendix F

Left-Turn Lane Warrant Graphs













Appendix G

AutoTURN Exhibits







Inbound from East

TIS for the Duckhorn Vineyards Use Permit Modification

53-Foot Semi-Trailer Access via Western Driveway



Inbound from West

TIS for the Duckhorn Vineyards Use Permit Modification

53-Foot Semi-Trailer Access via Western Driveway



Outbound to East

TIS for the Duckhorn Vineyards Use Permit Modification

53-Foot Semi-Trailer Access via Western Driveway



Outbound to West

TIS for the Duckhorn Vineyards Use Permit Modification

53-Foot Semi-Trailer Access via Western Driveway