

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



Traffic Impact Study for the Duckhorn Vineyards Use Permit Modification



Prepared for the County of Napa

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Submitted by

W-Trans

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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 onsite.

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

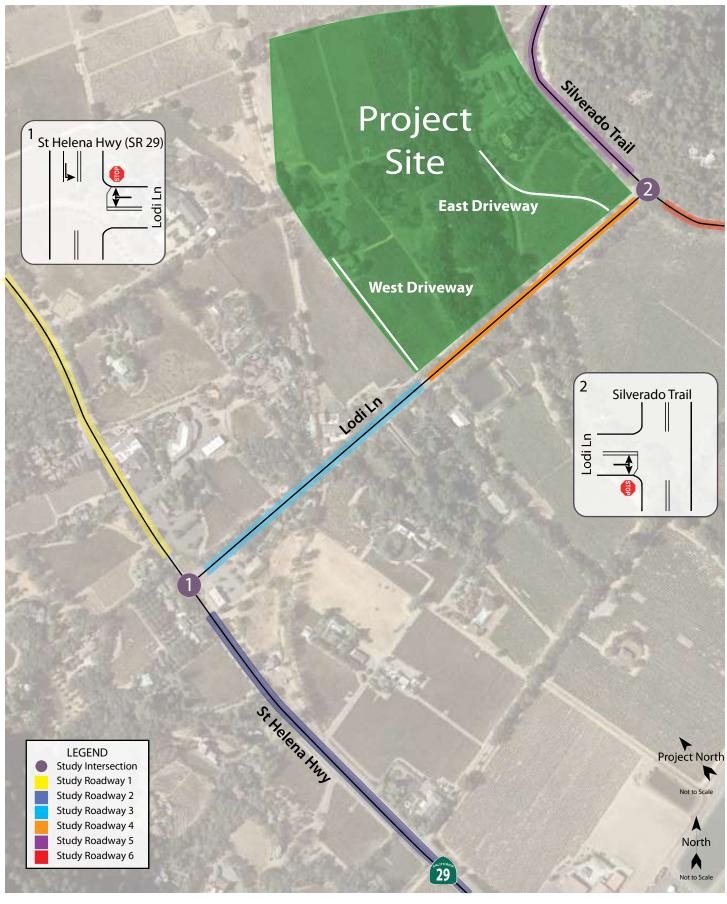
The purpose of a traffic impact study is to provide County staff and policy makers with data that they can use to make an informed decision regarding the potential transportation impacts of a proposed project, and any associated improvements that would be required in order to mitigate these impacts to 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.





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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 right-of-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.

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	II	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.



Capacity Analysis

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 gueue 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," 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					
Stu	ıdy Intersection	Friday P	M Peak	Saturday MD Peak		
	Approach	Delay	LOS	Delay	LOS	
1.	SR 29/Lodi Ln	4.4	Α	1.5	Α	
	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	

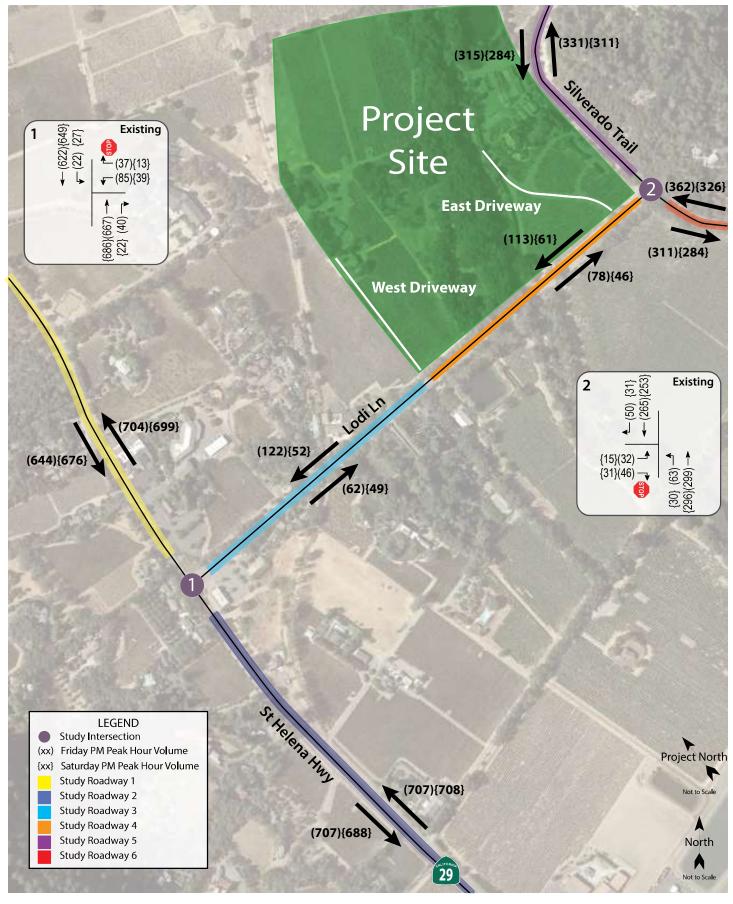
Notes: Delay is measured in average seconds per vehicle; LOS = Level of Service; Results for minor approaches to two-way stop-controlled intersections are indicated in *italics*; **Bold** text denotes unacceptable operation

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.





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Tal	Table 7 – Existing Peak Hour Roadway Segment Levels of Service					
Stu	udy Segment	Friday P	M 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	Α	15.1	Α	
	Westbound	27.0	Α	15.7	Α	
4.	Lodi Ln - East of Project Dwy					
	Eastbound	20.4	Α	14.5	Α	
	Westbound	25.2	Α	17.5	Α	
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



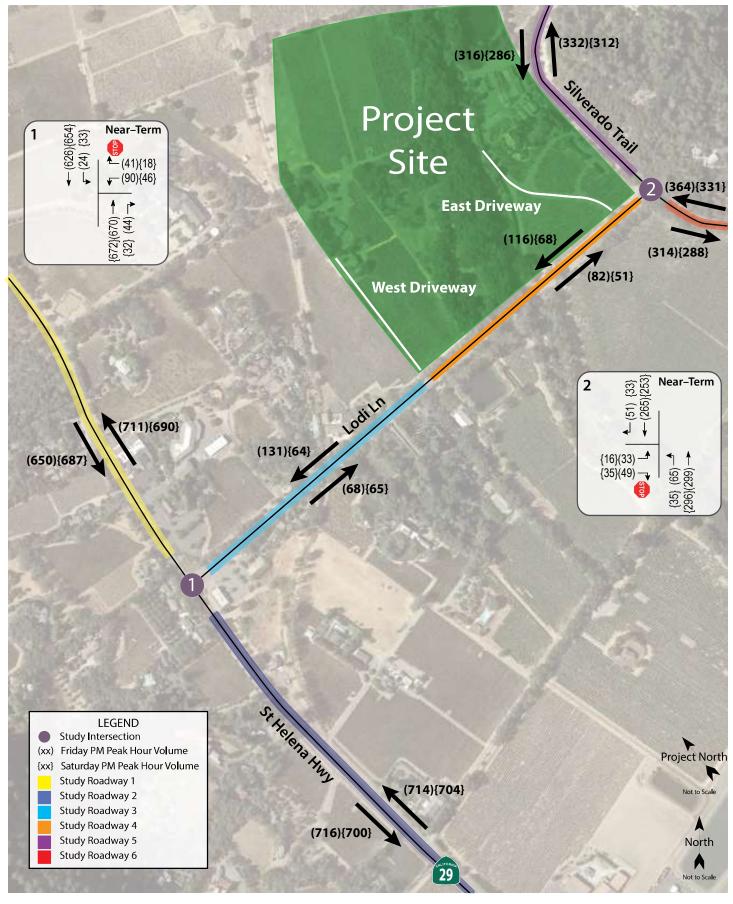
hours. The Near-Term intersection volumes are shown in Figure 3 and a summary of the intersection Level of Service calculations is contained in Table 8.

Tal	Table 8 – Near-Term Peak Hour Intersection Levels of Service					
Stu	udy Intersection	Friday P	M Peak	Saturday	PM Peak	
	Approach	Delay	LOS	Delay	LOS	
1.	SR 29/Lodi Ln	5.1	Α	1.8	Α	
	Westbound (Lodi Ln) Approach	56.6	F	36.5	E	
2.	Silverado Trail/Lodi Ln	2.0	Α	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.



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Tal	Table 9 – Near-Term Peak Hour Roadway Segment Levels of Service					
Stu	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	Α	18.2	Α	
	Westbound	28.2	Α	17.9	Α	
4.	Lodi Ln - East of Project Dwy					
	Eastbound	21.1	Α	15.6	Α	
	Westbound	25.6	Α	18.8	Α	
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.

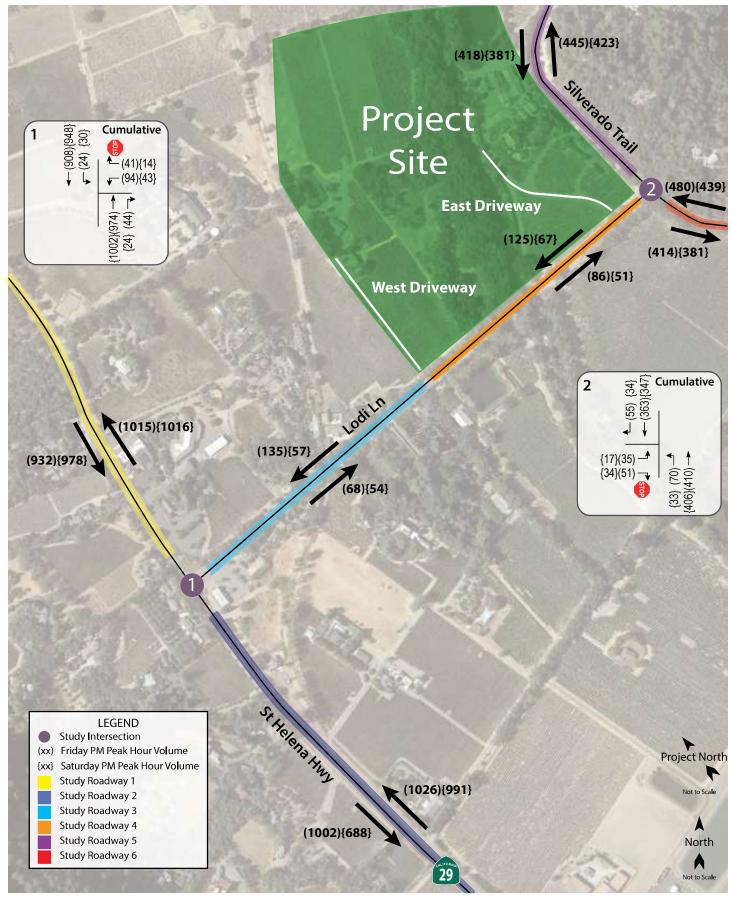
Tal	Table 10 – Cumulative Peak Hour Intersection Levels of Service						
Study Intersection		Friday PM Peak		Saturday PM Peak			
	Approach	Delay	LOS	Delay	LOS		
1.	SR 29/Lodi Ln	23.6	С	3.7	Α		
	Westbound (Lodi Ln) Approach	361.8	F	126.9	F		
2.	Silverado Trail/Lodi Ln	1.9	Α	1.0	Α		
	Eastbound (Lodi Ln) 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.





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Tal	Table 11 – Cumulative Peak Hour Roadway Segment Levels of Service					
Stu	udy 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	Α	15.7	Α	
	Westbound	28.0	Α	16.2	Α	
4.	Lodi Ln - East of Project Dwy					
	Eastbound	21.2	Α	14.6	Α	
	Westbound	26.2	Α	17.5	Α	
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.

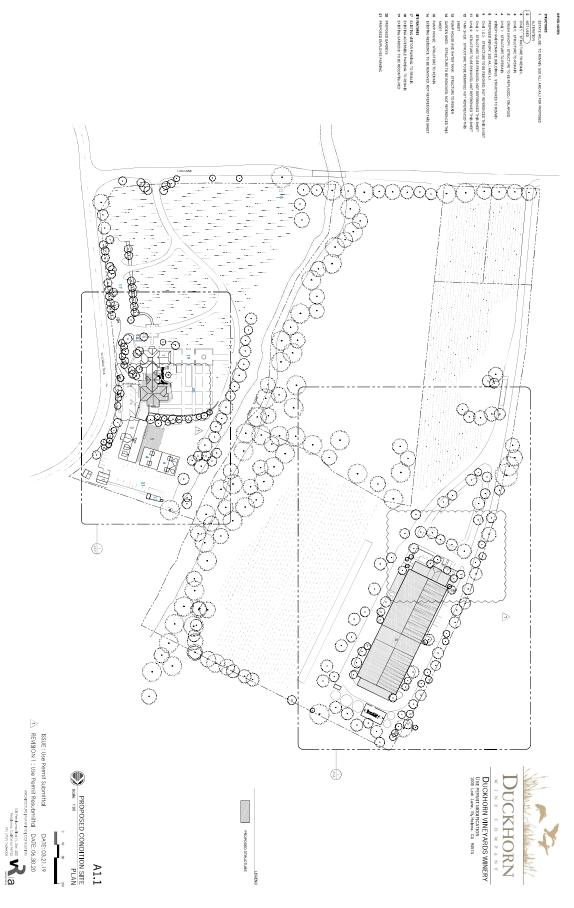
Based on actual site data collected during harvest in October 2019, approximately 14 and 15 percent of the total daily trips occur during the peak hour of the generator on Fridays and Saturdays, respectively, which generally occurred in the afternoon on both days. The percentages for the peak hour of 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	aily	Friday PM Peak		Satur	Saturday PM Pe					
	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.





Source: VRA Architects 1/25 nax142-1.ai 1/21



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

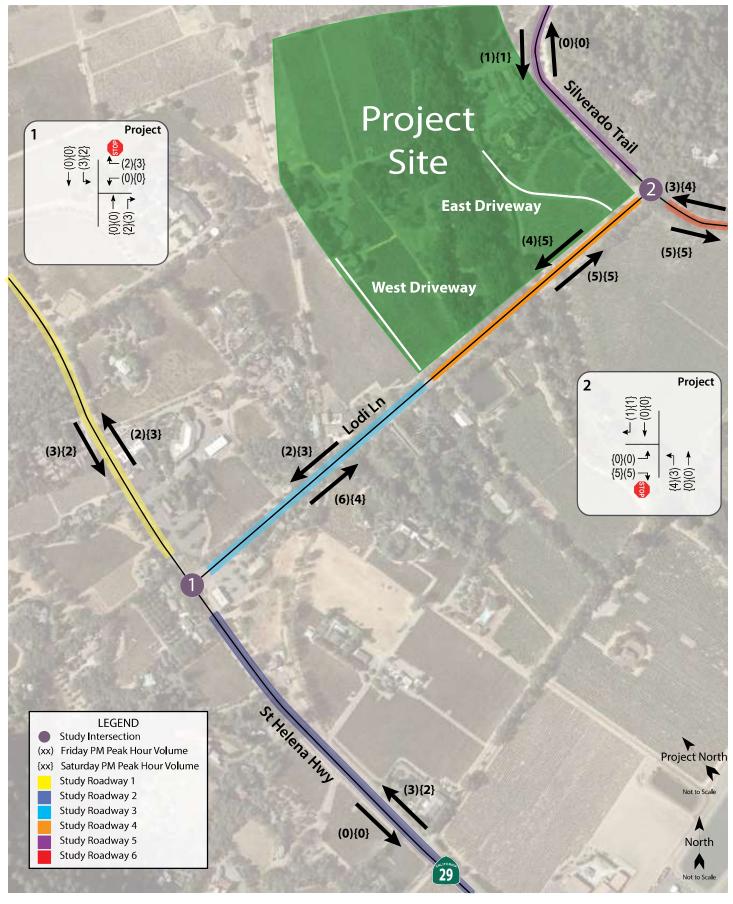
Existing plus Project Conditions

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	Table 14 – Existing and Existing plus Project Peak Hour Intersection Levels of Service											
Study Intersection Approach		Exi	isting (Conditio	ns	Existing plus Project						
		Friday PM Saturday PM		Frida	y PM	Saturday PM						
		Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS			
1.	SR 29/Lodi Ln	4.4	Α	1.5	Α	4.6	Α	1.5	Α			
	Westbound (Lodi Ln) Approach	51.1	F	34.7	D	52.1	F	33.9	D			
2.	Silverado Trail/Lodi Ln	2.0	Α	1.2	Α	2.0	Α	1.3	Α			
	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





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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		Nea	Near-Term Conditions Near-Term plus Pro									
	Approach	Frida	y PM	Saturd	ay PM	Frida	y PM	Saturd	ay PM			
		Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS			
1.	SR 29/Lodi Ln	5.1	Α	1.8	Α	5.3	Α	1.9	Α			
	Westbound (Lodi Ln) Approach	56.6	F	36.5	E	57.9	F	<i>35.9</i>	E			
2.	Silverado Trail/Lodi Ln	2.0	Α	1.3	Α	2.1	Α	1.4	Α			
	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.

Tal	Table 16 – Cumulative and Cumulative plus Project Peak Hour Intersection Levels of Service											
Study Intersection		Cum	nulative	e Conditi	ons	Cumulative plus Project						
	Approach	Friday PM Saturday PM Friday PI		y PM	Saturd	ay PM						
		Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS			
1.	SR 29/Lodi Ln	23.6	С	3.7	Α	24.6	С	3.8	Α			
	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	Α	1.0	Α	1.9	Α	1.1	Α			
	Eastbound (Lodi Ln) Approach	14.5	В	12.5	В	14.4	В	12.4	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; 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 ÷ (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	Table 17 – Existing and Existing plus Project Peak Hour Roadway Segment Levels of Service									
Stu	ıdy Segment	Ex	kisting (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	Α	15.1	Α	18.7	Α	15.5	Α	
	Westbound	27.0	Α	15.7	Α	27.2	Α	16.3	Α	
4.	Lodi Ln - East of Project Dwy									
	Eastbound	20.4	Α	14.5	Α	21.3	Α	15.6	Α	
	Westbound	25.2	Α	17.5	Α	25.8	Α	18.1	Α	
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	Table 18 – Near-Term and Near-Term plus Project Peak Hour Roadway Segment Levels of Service									
Study Segment		Ne	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	Α	18.2	Α	19.8	Α	18.5	Α	
	Westbound	28.2	Α	17.9	Α	28.4	Α	18.5	Α	
4.	Lodi Ln - East of Project Dwy									
	Eastbound	21.1	Α	15.6	Α	21.9	Α	16.6	Α	
	Westbound	25.6	Α	18.8	Α	26.2	Α	19.4	Α	
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.



Tal	Table 19 – Cumulative and Cumulative plus Project Peak Hour Roadway Segment Levels of Service									
Study Segment		Cun	Cumulative Conditions				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	Α	15.7	Α	19.2	Α	16.1	Α	
	Westbound	28.0	Α	16.2	Α	28.2	Α	16.8	Α	
4.	Lodi Ln - East of Project Dwy									
	Eastbound	21.2	Α	14.6	Α	22.0	Α	15.6	Α	
	Westbound	26.2	Α	17.5	Α	26.7	Α	18.0	Α	
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	

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.

Vehicle Miles Traveled

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 weekdays compared to Friday. 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 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.

Access and Circulation

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 semi-truck 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 and Recommendations

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

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Assistant Engineer Kim Tellez
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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





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Intersection Collision Rate Worksheet

Duckhorn Vineyards Use Permit Modification

Intersection # 1: SR 29 & Lodi Ln

Date of Count: Friday, November 20, 2020

Number of Collisions: 3 Number of Injuries: 2 Number of Fatalities: 0

Average Daily Traffic (ADT): 14700 Start Date: October 1, 2014 End Date: September 30, 2019

Number of Years: 5

Intersection Type: Tee
Control Type: Stop & Yield Controls

Area: Rural

Collision Rate = Number of Collisions x 1 Million
ADT x Days per Year x Number of Years

Collision Rate = $\frac{3}{14,700} \times \frac{1,000,000}{365} \times \frac{1}{x}$

	Collisi	ion Rate	Fatality Rate	Injury Rate
Study Intersection	0.11	c/mve	0.0%	66.7%
Statewide Average*	0.16	c/mve	1.8%	39.5%

ADT = average daily total vehicles entering intersection c/mve = collisions per million vehicles entering intersection * 2016 Collision Data on California State Highways, Caltrans

Intersection # 2: Silverado Trail & Lodi Ln

Date of Count: Friday, November 20, 2020

Number of Collisions: 3 Number of Injuries: 2 Number of Fatalities: 0 Average Daily Traffic (ADT): 7600

Start Date: October 1, 2014

End Date: September 30, 2019 **Number of Years:** 5

Intersection Type: Tee
Control Type: Stop & Yield Controls
Area: Rural

Collision Rate = Number of Collisions x 1 Million
ADT x Days per Year x Number of Years

Collision Rate = $\frac{3}{7,600} \times \frac{1,000,000}{365} \times \frac{5}{1000}$

Injury Rate

NotesADT = average daily total vehicles entering intersection c/mve = collisions per million vehicles entering intersection * 2016 Collision Data on California State Highways, Caltrans

	ent Collision Rate Worksheet
Duckhorn Viney	yards Use Permit Modification TIS
Location:	: SR 29 - Ehlers Ln to Lodi Ln
Date of Count: Average Daily Traffic (ADT):	:: Friday, November 20, 2020 : 13,500
Number of Collisions:	
Number of Injuries:	
Number of Fatalities:	
Start Date:	: October 1, 2014
End Date:	: September 30, 2019
Number of Years:	: 5
	: Conventional 2 lanes or less
	: Rural
Design Speed:	
	: Rolling/Mountain
Segment Length: Direction:	: 0.6 miles : North/South
Collision Rate =	Number of Collisions x 1 Million
ADI x Days	s per Year x Segment Length x Number of Years
	1 000 000
Collision Rate = 9	x 1,000,000 x 365 x 0.6 x 5
13,300	X 365 X U.6 X 5
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Notes ADT = average daily traffic volume c/mvm = collisions per million vel * 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: Design Speed: Terrain: Segment Length: Direction: Collision Rate = ADT x Days Collision Rate = 15	ne ehicle miles ila State Highways, Caltrans SR 29 - Lodi Ln to Deer Park Rd Friday, November 20, 2020 14,100 15 15 16 0 17 0 Ctober 1, 2014 17 0 September 30, 2019 18 15 19 10 Conventional 2 lanes or less 19 11 Rural 11 ≤ 55 12 Rolling/Mountain 13 11 11 11 11 11 11 11 11 11 11 11 11 1
Notes ADT = average daily traffic volume c/mvm = collisions per million vel * 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: Design Speed: Terrain: Segment Length: Direction: Collision Rate = 4DT x Days Collision Rate = 15 14,100 Collision Collision Security (Author) ADT x Days Collision Collision Collision Security (Author) **Collision Pate** **Collision Pate** **Collision Pate** ADT x Days Collision Collision Collision Collision Pate** **Collision Pate** **Coll	ne ehicle miles nia State Highways, Caltrans SR 29 - Lodi Ln to Deer Park Rd Friday, November 20, 2020 14,100 15 Coctober 1, 2014 September 30, 2019 Coctober 1, 2014 September 30, 2019 Rural All Signary Rural All Signary Rolling/Mountain Number of Collisions x 1 Million Number of Collisions x 1 Million Sper Year x Segment Length x Number of Years x 1,000,000 x 365 x 0.6 x 5 Sion Rate Fatality Rate Injury Rate
Notes ADT = average daily traffic volume c/mvm = collisions per million vel * 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: End Date: Number of Years: Highway Type: Area: Design Speed: Terrain: Segment Length: Direction: Collision Rate = ADT x Days Collision Rate = Collisioner Collision Study Segment Collisioner Collision	ne ehicle miles nia State Highways, Caltrans SR 29 - Lodi Ln to Deer Park Rd Friday, November 20, 2020 14,100 15 16 17 18 19 19 10 10 10 10 10 10 10 10

Notes

ADT = average daily traffic volume
c/mvm = collisions per million vehicle miles
* 2016 Collision Data on California State Highways, Caltrans

W-Trans

Roadway Segme	nt Col	lision Rate	Work	kshee	et	
Duckhorn Viney	ards Use	Permit Modific	ation TI	S		
Location:	Lodi Ln	- SR 29 to West I	Driveway	,		
Date of Count: Average Daily Traffic (ADT):		November 20, 20	020			
Number of Collisions:	0					
Number of Collisions: Number of Injuries:						
Number of Fatalities:	0					
Start Date:						
Number of Years:		ber 30, 2019				
Highway Type:	Conven	tional 2 lanes or	less			
Area: Design Speed:	Rural					
Terrain:						
Segment Length: Direction:						
Collision Rate = ADT x Days		r of Collisions x 1 x Segment Lenc		nher of	Years	
ADIX Days	her rear		jui a ivuli	inder OI	i cui s	
Collision Rate = 0	Х	1,000,000				
1,800	Х	365 x	0.3	Х	5	
		Fatality Rate				
Study Segment 0.00 Statewide Average* 0.98			39.5			
Notes ADT = average daily traffic volume c/mvm = collisions per million veh * 2016 Collision Data on California	icle miles		s			
		- West Driveway		ado Tra	il	
Date of Count: Average Daily Traffic (ADT):		November 20, 20	J20			
Number of Collisions:	0					
Number of Injuries:						
Number of Fatalities:		.1 2014				
Start Date: End Date:		ber 30, 2019				
Number of Years:		,				
Highway Ton-	Convo	tional 2 lance ==	locc			
Highway Type: Area:	Conven	uonai z lanes or	1622			
Design Speed:	<=55					
Terrain:	Flat					
Segment Length: Direction:						
Collision Rate = ADT x Days		r of Collisions x 1 x Segment Leng		nber of `	Years	
•		1 000 000				
Collision Rate =	X	1,000,000 365 x	0.3	х	5	
		Fatality Rate				
Study Segment 0.00 Statewide Average* 0.97	c/mvm c/mvm	0.0% 1.1%	39.5			
Statewide Average 0.57	c/mvin	1.170	39.3	- /0		
Notes						
ADT = average daily traffic volume c/mvm = collisions per million veh		5				
* 2016 Collision Data on California			s			

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Roadway Segme					t	
Duckhorn Viney	ards Use	Permit Modific	ation 1	S		
Location:	Silverad	o Trail - Glass M	tn Rd to I	odi Ln		
Date of Count: Average Daily Traffic (ADT):		November 20, 20)20			
Number of Collisions:						
Number of Injuries:						
Number of Fatalities:						
Start Date:						
		ber 30, 2019				
Number of Years:	5					
Highway Type: Area:	Conven Rural	tional 2 lanes or	less			
Design Speed:						
		Mountain				
Segment Length:						
Direction:	North/S	outh				
	Numbe	r of Collisions x 1	Million			
Collision Rate = ADT x Days		x Segment Leng		nber of `	Years .	 -
10		1 000 000				
Collision Rate =	X	1,000,000 365 x	0.5	x	5	
,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,				^	-	
		Fatality Rate				
Study Segment 1.69 Statewide Average* 1.12	c/mvm	0.0% 2.5%	10.0 46.6			
Statewice Average" 1.12	c/mvnij	2.370	40.0	9%		
Notes ADT = average daily traffic volume c/mvm = collisions per million vel * 2016 Collision Data on California	nicle miles		s			
Location:	Silverad	o Trail - Lodi Ln	to Door F			
Date of Count:			to Deel F	ark Rd		
		November 20, 20		ark Rd		
Average Daily Traffic (ADT):	6,700	November 20, 20		ark Rd		
Number of Collisions:	6,700	November 20, 20		ark Rd		
Number of Collisions: Number of Injuries:	6,700 10 1	November 20, 20		ark Rd		
Number of Collisions: Number of Injuries: Number of Fatalities:	6,700 10 1 0			ark Rd		
Number of Collisions: Number of Injuries: Number of Fatalities: Start Date:	6,700 10 1 0 October	r 1, 2014		ark Rd		
Number of Collisions: Number of Injuries: Number of Fatalities: Start Date: End Date:	6,700 10 1 0 October Septem			ark Rd		
Number of Collisions: Number of Injuries: Number of Fatalities: Start Date: End Date: Number of Years:	6,700 10 1 0 October Septem 5	r 1, 2014 ber 30, 2019	020	ark Rd		
Number of Collisions: Number of Injuries: Number of Fatalities: Start Date: End Date: Number of Years: Highway Type:	6,700 10 1 0 October Septem 5	r 1, 2014 ber 30, 2019	020	ark Rd		
Number of Collisions: Number of Injuries: Number of Fatalities: Start Date: End Date: Number of Years: Highway Type: Area:	6,700 10 1 0 October Septem 5 Convent Rural	r 1, 2014 ber 30, 2019	020	Park Rd		
Number of Collisions: Number of Injuries: Number of Fatalities: Start Date: End Date: Number of Years: Highway Type: Area: Design Speed:	6,700 10 1 0 October Septem 5 Convent Rural <=55	r 1, 2014 ber 30, 2019	020	Park Rd		
Number of Collisions: Number of Injuries: Number of Fatalities: Start Date: End Date: Number of Years: Highway Type: Area: Design Speed:	6,700 10 1 0 October Septem 5 Convent Rural <=55 Rolling/	r 1, 2014 ber 30, 2019 tional 2 lanes or Mountain	020	Park Rd		
Number of Collisions: Number of Injuries: Number of Fatalities: Start Date: End Date: Number of Years: Highway Type: Area: Design Speed: Terrain:	6,700 10 1 0 October Septem 5 Conven Rural <=55 Rolling/	r 1, 2014 ber 30, 2019 tional 2 lanes or Mountain miles	020	ark Rd		
Number of Collisions: Number of Injuries: Number of Fatalities: Start Date: End Date: Number of Years: Highway Type: Area: Design Speed:	6,700 10 1 0 October Septem 5 Conven Rural <=55 Rolling/	r 1, 2014 ber 30, 2019 tional 2 lanes or Mountain miles	020	°ark Rd		
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:	6,700 10 1 0 October Septem 5 Conven Rural <=55 Rolling/ 0.5 North/S	r 1, 2014 ber 30, 2019 tional 2 lanes or Mountain miles outh r of Collisions x 1	less			
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:	6,700 10 1 0 October Septem 5 Conven Rural <=55 Rolling/ 0.5 North/S	r 1, 2014 ber 30, 2019 tional 2 lanes or Mountain miles outh	less		' 'ears	
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 =	6,700 10 1 0 October Septem 5 Conven Rural <=55 Rolling/ 0.5 North/S Number per Year	r 1, 2014 ber 30, 2019 tional 2 lanes or Mountain miles outh r of Collisions x 1 x Segment Leng	less		Y ears	
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:	6,700 10 1 0 October Septem 5 Conven Rural <=55 Rolling/ 0.5 North/S	r 1, 2014 ber 30, 2019 tional 2 lanes or Mountain miles outh r of Collisions x 1	less		Years 5	
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 = ADT x Days Collision Rate = 10 6,700	6,700 10 1 0 October Septem 5 Conven Rural <=55 Rolling/ 0.5 North/S Number per Year x	r 1, 2014 ber 30, 2019 tional 2 lanes or Mountain miles outh r of Collisions x 1 x Segment Leng 1,000,000 365 x	less I Million 10th x Nun 10.5	nber of \(\text{x} \)		
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 = 4DT x Days Collision Rate = 10 6,700 Collision Collis	6,700 10 1 0 October Septem 5 Conven Rural <=55 Rolling/ 0.5 North/S Number per Year x x son Rate	r 1, 2014 ber 30, 2019 tional 2 lanes or Mountain miles outh r of Collisions x 1 x Segment Leng 1,000,000 365 x Fatality Rate	less Million pth x Nun 0.5 Injury	x Rate		
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 = 4DT x Days Collision Rate = 10 6,700 Study Segment Collisions Collisions Collision Collisions	6,700 10 1 0 October Septem 5 Conven Rural <=55 Rolling/ 0.5 North/S Number per Year x	r 1, 2014 ber 30, 2019 tional 2 lanes or Mountain miles outh r of Collisions x 1 x Segment Leng 1,000,000 365 x Fatality Rate 0.0%	less I Million 10th x Nun 10.5	x Rate		

Notes

ADT = average daily traffic volume
c/mvm = collisions per million vehicle miles
* 2016 Collision Data on California State Highways, Caltrans

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Appendix B

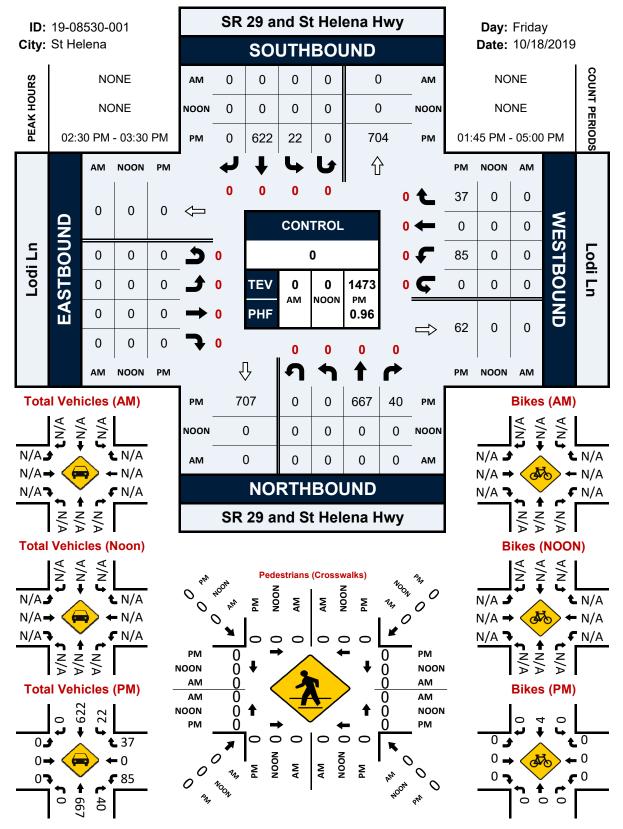
Traffic Counts and Heavy Vehicle Data



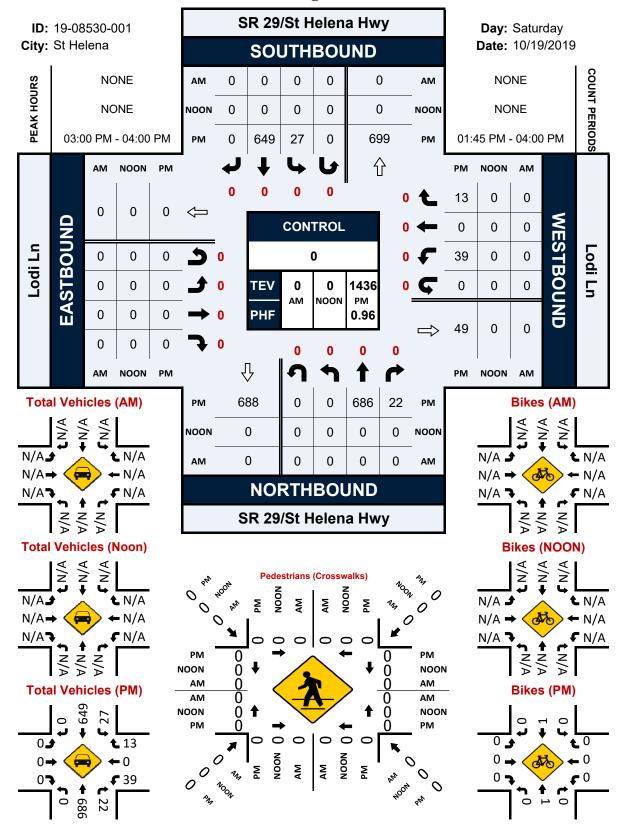


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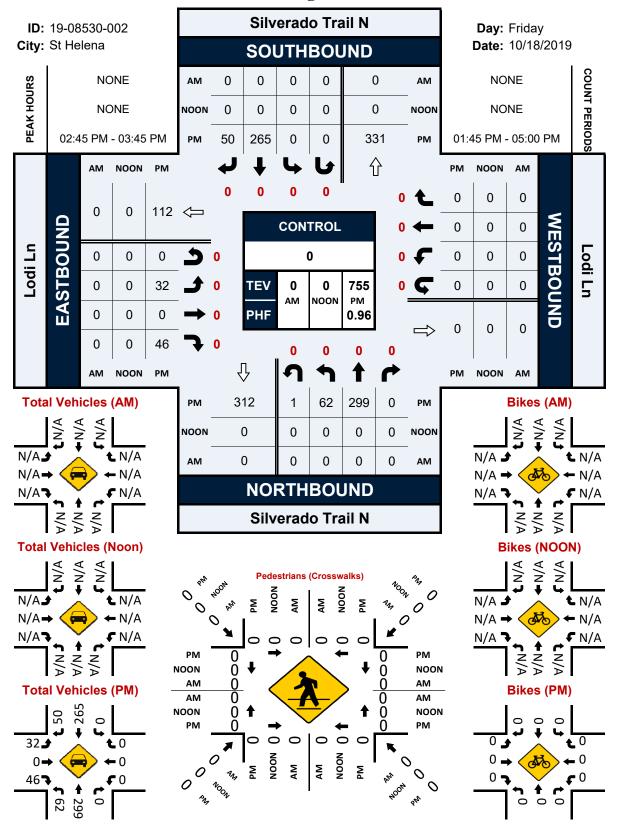
SR 29 and St Helena Hwy & Lodi Ln



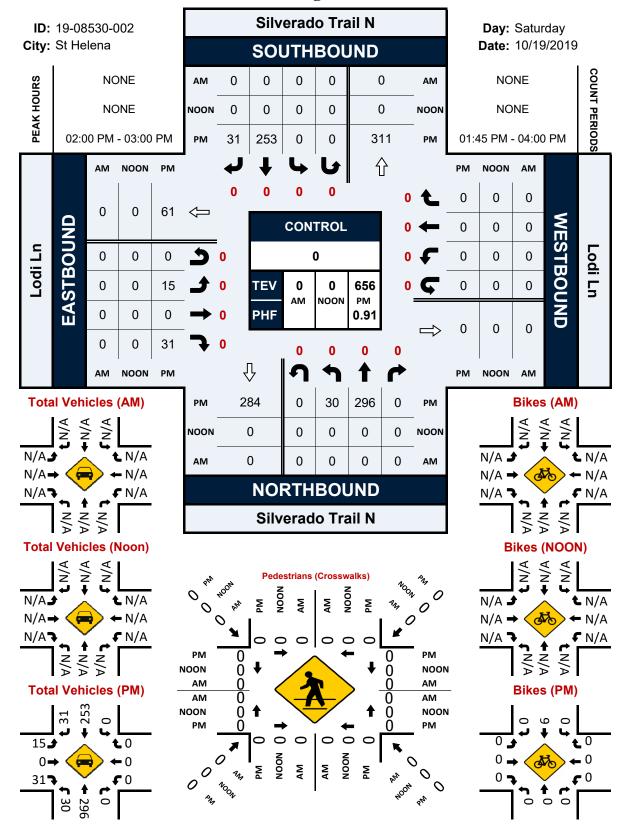
SR 29/St Helena Hwy & Lodi Ln



Silverado Trail N & Lodi Ln



Silverado Trail N & Lodi Ln



Duckhorn Vineyards Dwy N/O Lodi Ln

Day: Friday Date: 10/18/2019

	DAILY TO	ΤΔΙ S		NB		SB		EB		WB							tal
	— DAILI TU	IALO		0		0		202		221						42	23
AM Period	NB SI	В	ЕВ	WB		TO	TAL	PM Period	NB		SB	EB		WB		TO	TAL
00:00			0	0		0		12:00				3		5		8	
00:15			0	0		0		12:15				3		5		8	
00:30			0	0		0		12:30 12:45				8	22	4	26	12	40
00:45 01:00			0	0		0		13:00				<u>8</u> 5	22	12 6	26	20 11	48
01:15			0	0		0		13:15				9		6		15	
01:30			0	Ö		0		13:30				7		7		14	
01:45			0	0		0		13:45				8	29	9	28	17	57
02:00			0	0		0		14:00				4		6		10	
02:15			0	0		0		14:15				9		7		16	
02:30 02:45			0	0 0		0		14:30 14:45				4	20	9 7	20	13 18	E 7
03:00			0	0		0		15:00				<u>11</u> 6	28	6	29	12	57
03:15			1	0		1		15:15				3		7		10	
03:30			0	3		3		15:30				9		2		11	
03:45			0 1	0	3	0	4	15:45				8	26	5	20	13	46
04:00			2	0		2		16:00				8		5		13	
04:15			0	0		0		16:15				11		2		13	
04:30 04:45			0 2	0 0		0	2	16:30 16:45				9 8	36	2 1	10	11 9	46
05:00			1	0		1		17:00				12	30	0	10	12	40
05:15			0	0		0		17:15				6		0		6	
05:30			0	Ō		0		17:30				2		Ō		2	
05:45			0 1	0		0	1	17:45				0	20	0		0	20
06:00			0	0		0		18:00				0		0		0	
06:15			0	0		0		18:15				2		1		3	
06:30 06:45			0	5 11	16	5 11	16	18:30 18:45				0 0	2	0 0	1	0	3
07:00			2	2	16	4	10	19:00				0	2	0		0	3
07:15			1	4		5		19:15				0		0		0	
07:30			0	2		2		19:30				Ö		Ö		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			0	2		2		20:15				0		0		0	
08:30 08:45			1 0 1	5 5	15	6 5	16	20:30 20:45				0 0		0		0	
09:00			2	5	15	7	10	21:00				0		0		0	
09:15			1	0		1		21:15				0		0		0	
09:30			2	5		7		21:30				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		10		22:15				0		0		0	
10:30 10:45			1 2 4	7 3	22	8 5	27	22:30 22:45				0 1	1	0 0		0 1	1
11:00			2 4	<u> </u>	23	7	27	23:00				0	11	0		0	1
11:15			6	5		11		23:15				0		0		0	
11:30			7	10		17		23:30				Ő		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%		41.0%		65.7%
	DAHVEA	FALC		NB		SB		EB		WB						To	tal
	DAILY TO	IALS		0		0		202		221							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
Pk Hr Factor			0.714		0.750		0.735	Pk Hr Factor					0.833		0.646		0.750
7 - 9 Volume	0	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			0.500		0.750		0.667	Pk Hr Factor					0.833		0.500		0.885

Duckhorn Vineyards Dwy N/O Lodi Ln

Day: Saturday **Date:** 10/19/2019

	DAILY T	OTALS			NB		SB		EB		WB						То	otal
	DAILT	DIALS			0		0		183		209						39	92
AM Period	NB	SB	EB		WB		TO	TAL	PM Period	NB		SB	Е	В	WB		TO	TAL
00:00			0		0		0		12:00				-	7	7		14	
00:15			0		0		0		12:15					3	8		11	
00:30			0		0		0		12:30				1		7		17	
00:45			0		0		0		12:45				3		13	35	21	63
01:00			0		0		0		13:00 13:15				-		8		15	
01:15 01:30			0		0 0		0		13:30				9		10 9		19 15	
01:45			0		0		0		13:45				(5	32	11	60
02:00			0		0		0		14:00						7	32	15	- 00
02:15			Ö		Ö		0		14:15					2	9		11	
02:30			0		0		0		14:30				8		9		17	
02:45			0		0		0		14:45				į		4	29	9	52
03:00			0		0		0		15:00					7	5		12	
03:15			0		0		0		15:15				1		6		16	
03:30			0		0		0		15:30				1		1		12	
03:45			0		0		0		15:45					32	2	14	6	46
04:00			0		0		0		16:00				7		3		10	
04:15 04:30			0 0		0		0		16:15 16:30						1 2		6 8	
04:30 04:45			0		0		0		16:30				1		0	6	8 13	37
05:00			0		0		0		17:00						0	U	3	37
05:00			0		0		0		17:15						0		1	
05:30			0		Ö		0		17:30						Ö		Ō	
05:45			Ö		0		0		17:45						0		1	5
06:00			0		0		0		18:00						1		3	
06:15			0		0		0		18:15				()	0		0	
06:30			0		2		2		18:30				(0		0	
06:45			0		3	5	3	5	18:45				(0	1	0	3
07:00			1		0		1		19:00				4		0		4	
07:15			0		0		0		19:15				(0		0	
07:30			0		0		0		19:30				(0		0	
07:45			0	1	0		0	11	19:45 20:00				(0		0	4
08:00 08:15			0				2		20:00				(0		0	
08:30			0		2		2		20:30				(0		0	
08:45			3	3	15	20	18	23	20:45				(0		0	
09:00			1		2	20	3		21:00				(0		0	
09:15			1		2		3		21:15				(Ö		0	
09:30			1		0		1		21:30				(0		0	
09:45			1	4	8	12	9	16	21:45				()	0		0	
10:00			0		4		4		22:00				:	l	0		1	
10:15			0		4		4		22:15				(0		0	
10:30			2		11	_	13		22:30				(0		0	
10:45			4	6	7	26	11	32	22:45				(0		0	1
11:00			1		6		7		23:00				(0		0	
11:15			4		10		14		23:15 23:30				(0		0	
11:30 11:45			2 8	15	5 8	29	7 16	44	23:30				(0 0		0	
TOTALS			0	29	0	92	10	121	TOTALS					154	U	117	0	271
SPLIT %				24.0%		76.0%		30.9%						56.89	%	43.2%		69.1%
JFLII /0				24.070		70.0%		30.3/0	JI LII /0					30.87	70	43.2/0		33.1/0
	DAILY T	OTALS			NB		SB		EB		WB							otal
					0		0		183		209						39	92
AM Peak Hour				11:45		10:30		11:45	PM Peak Hour					12:30)	12:45		12:30
AM Pk Volume				28		34		58	PM Pk Volume					34		40		72
Pk Hr Factor				0.700		0.773		0.853	Pk Hr Factor					0.850)	0.769		0.857
7 - 9 Volume	0	0		4		20		24	4 - 6 Volume		0		0	36		6		42
7 - 9 Volume 7 - 9 Peak Hour	0	0				20 08:00		24 08:00	4 - 6 Volume 4 - 6 Peak Hour		0		0	36 16:00)			42 16:00
	0	0		4							0		0)	6		

Duckhorn Vineyards Dwy N/O Lodi Ln

Day: Sunday Date: 10/20/2019

	DAIIA	TOTALS			NB		SB		EB		WB						To	tal
	DAILI	IOIALS			0		0		126		123						2	49
AM Period	NB	SB	EB		WB		то	TAL	PM Period	NB		SB	EB		WB		TO	TAL
00:00			0		0		0		12:00				5		2		7	
00:15			0		0		0		12:15				3		7		10	
00:30			0		0		0		12:30				6		5		11	
00:45			0		0		0		12:45 13:00				4 7	18	<u>4</u> 6	18	8	36
01:00 01:15			0		0		0		13:15				4		4		13 8	
01:30			0		0		0		13:30				6		2		8	
01:45			0		0		0		13:45				7	24	2	14	9	38
02:00			0		0		0		14:00				4		9		13	
02:15			0		0		0		14:15				6		2		8	
02:30			0		0		0		14:30				1		3		4	
02:45			0		0		0		14:45 15:00				3	15	7	21	11	36
03:00 03:15			0 0		0 0		0		15:15				5		4 3		7 8	
03:30			0		0		0		15:30				6		1		7	
03:45			0		0		0		15:45				0	14	1	9	1	23
04:00			0		0		0		16:00				6		0		6	
04:15			0		0		0		16:15				6		0		6	
04:30			0		0		0		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 17:15				14		0		14	
05:15 05:30			0 0		0 0		0		17:15				4 2		0 0		4 2	
05:45			0		0		0		17:45				0	20	0		0	20
06:00			0		0		0		18:00				0	20	0		0	20
06:15			0		0		0		18:15				0		1		1	
06:30			0		0		0		18:30				0		0		0	
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 19:45				0		0		0	
07:45 08:00			0		1	-	<u>0</u>		20:00				0		<u>0</u>		0 1	
08:15			0		0		0		20:15				1		1		2	
08:30			0		1		1		20:30				1		0		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	_	0		21:30				0		0		0	
09:45			0		3	3	3	3	21:45				0		0		0	
10:00			0		2		2		22:00 22:15				0		0		0	
10:15 10:30			0 4		5 5		5 9		22:15				0		0 0		0	
10:30			1	5	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		7		10		23:30				0		0		0	
11:45			1	6	4	19	5	25	23:45				0		0		0	
TOTALS				13		55		68	TOTALS					113		68		181
SPLIT %				19.1%	8	30.9%		27.3%	SPLIT %					62.4%		37.6%		72.7%
	DAILY	TOTALS			NB		SB		EB		WB						To	tal
	DAILY	TOTALS			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	0	0		2		14		16	4 - 6 Volume		0		0	39		3		42
7 - 9 Peak Hour				08:00		08:00		08:00	4 - 6 Peak Hour					16:15		16:00		16:15
7 - 9 Pk Volume				2		14		16	4 - 6 Pk Volume					27		3		30
Pk Hr Factor	0.000	0.00	00	0.250		0.292		0.286	Pk Hr Factor		0.000	0.	000	0.482		0.375		0.536

Duckhorn Vineyards Dwy N/O Lodi Ln

Day: Monday Date: 10/21/2019

	DAILY TO	OTALS		NE	,	SB		EB	V	/B					To	otal
	DAILI	DIALS		0		0		136	1	35					27	71
AM Period	NB	SB	EB	WE	3	ТО	TAL	PM Period	NB	SB	EB		WB		TO	TAL
00:00			0	0		0		12:00			3		3		6	
00:15 00:30			0 0	0		0		12:15 12:30			3 5		4 1		7 6	
00:30			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		13:15			3		7		10	
01:30			0 0	0		0		13:30 13:45			3 0	0	3 2	1.0	6	24
01:45 02:00			0	0		0		14:00			0	8	5	16	5	24
02:15			1	Ö		1		14:15			5		3		8	
02:30			0	0		0		14:30			1		2		3	
02:45			0 1			0	1	14:45 15:00			7	13	4	14	11	27
03:00 03:15			0 0	0		0		15:15			5 8		4		9 12	
03:30			0	0		0		15:30			5		3		8	
03:45			0	0		0		15:45			2	20	4	15	6	35
04:00			0	0		0		16:00			7		0		7	
04:15 04:30			0 0	0 1		0 1		16:15 16:30			4 8		2		6 10	
04:45			0	1	2	1	2	16:45			4	23	2	6	6	29
05:00			1	0		1		17:00			8		2		10	
05:15			1	0		1		17:15			2		0		2	
05:30 05:45			0 0 2	1 1	2	1 1	4	17:30 17:45			3 4	17	0	2	3 4	19
06:00			4	1	2	5	4	18:00			3	1/	0		3	19
06:15			0	0		0		18:15			1		1		2	
06:30			0	3		3		18:30			1		0		1	
06:45			0 4		11	7	15	18:45			0	5	0	1	0	6
07:00 07:15			1 0	4 0		5 0		19:00 19:15			0		0		0	
07:30			1	2		3		19:30			Ö		0		0	
07:45			0 2		7	1	9	19:45			1	1	0		1	1
08:00			0	2		2		20:00			0		1		1	
08:15 08:30			2 0	3		5 3		20:15 20:30			1 0		0		1 0	
08:45			1 3		15	8	18	20:45			0	1	0	1	0	2
09:00			0	1		1		21:00			0		0		0	
09:15			2	0		2		21:15			0		0		0	
09:30 09:45			0 0 2	3 1	5	3 1	7	21:30 21:45			0 1	1	0 0		0 1	1
10:00			2	4	<u> </u>	6		22:00			0		0		0	
10:15			2	2		4		22:15			0		0		0	
10:30			0	4	4.0	4	4-7	22:30			0		0		0	
10:45 11:00			1 5 2	3	12	3 5	17	22:45 23:00			0		0		0	
11:15			1	2		3		23:15			0		0		0	
11:30			1	7		8		23:30			0		0		0	
11:45			6 10		14	8	24	23:45			0		0		0	
TOTALS			29)	68		97	TOTALS				107		67		174
SPLIT %			29.	9%	70.1%		35.8%	SPLIT %				61.5%		38.5%		64.2%
	DAILY TO	OTALS		NE	;	SB		EB		/B					To	otal
	— DAILI I	STAES -		0		0		136	1	35					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			0.7		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 7 - 9 Pk Volume			07:		08:00		08:00	4 - 6 Peak Hour 4 - 6 Pk Volume				16:15		16:15		16:15
Pk Hr Factor			0.3		15 0.536		18 0.563	Pk Hr Factor				24 0.750		8 1.000		32 0.800
	0.000	0.000	0.0	_	- 1000							2.,00				

Duckhorn Vineyards Dwy N/O Lodi Ln

Day: Tuesday **Date:** 10/22/2019

	DAILY T	OTALS			NB		SB		EB		WB							otal
	DAILI	OTALS			0		0		124		132						2	56
AM Period	NB	SB	EB		WB		TO	TAL	PM Period	NB		SB	EE	3	WB		TO	TAL
00:00 00:15			0		0		0 0		12:00 12:15				2 7		2 5		4 12	
00:15			0 0		0		0		12:15				1		5 4		5	
00:45			0		0		0		12:45				5	15	1	12	6	27
01:00			0		0		0		13:00				1		7		8	
01:15 01:30			0 0		0 0		0		13:15 13:30				2		4 3		6 5	
01:45			0		0		0		13:45				2	7	5	19	7	26
02:00			0		0		0		14:00				4		3		7	
02:15			0		0		0		14:15				1		1		2	
02:30 02:45			0		0 0		0		14:30 14:45				2 5	12	2	8	4 7	20
03:00			0		0		0		15:00				2		3	Ŭ	5	
03:15			0		0		0		15:15				0		2		2	
03:30 03:45			0 0		0 0		0		15:30 15:45				13 4	10	3 0	8	16 4	27
04:00			0		0		0		16:00				10	19	1	•	11	
04:15			0		0		0		16:15				4		1		5	
04:30			0	4	0		0		16:30				8	27	1	ء ا	9	20
04:45 05:00			0	1	0		1	1	16:45 17:00				<u>5</u>	27	2	3	<u>5</u> 8	30
05:15			1		0		1		17:15				0		0		0	
05:30			0		0		0		17:30				3		Ō		3	
05:45			0	1	0	1	0	2	17:45				0	9	0	2	0	11
06:00 06:15			0 1		1 1		1 2		18:00 18:15				0		0 0		0	
06:30			0		3		3		18:30				0		0		0	
06:45			0	1	8	13	8	14	18:45				0		0		0	
07:00			1		6		7		19:00				0		0		0	
07:15 07:30			3 2		2		5 4		19:15 19:30				0		0 1		0 1	
07:45			1	7	1	11	2	18	19:45				0		1	2	1	2
08:00			1		2		3		20:00				2		0		2	
08:15 08:30			0		3 2		3 2		20:15 20:30				1 0		0 0		1 0	
08:45			0	1	6	13	6	14	20:45				0	3	0		0	3
09:00			1		4		5		21:00				0		0		0	
09:15			0		3		3		21:15				0		0		0	
09:30 09:45			1 0	2	2 6	15	3 6	17	21:30 21:45				0		0		0	
10:00			2		3	15	5	17	22:00				0		0	-	0	
10:15			1		5		6		22:15				0		0		0	
10:30			2		0	40	2	16	22:30				0		0		0	
10:45 11:00			2	6	9	10	3 11	16	22:45 23:00				0		0	-	0	
11:15			4		3		7		23:15				0		0		0	
11:30			5		2		7		23:30				0		0		0	
11:45			2	13	1	15	3	28	23:45				0	62	0	F.4	0	4.65
TOTALS				32		78		110	TOTALS					92		54		146
SPLIT %				29.1%		70.9%		43.0%	SPLIT %					63.0%		37.0%		57.0%
	DAILY T	OTALS			NB		SB		EB		WB							otal
					0		0		124		132						2	256
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		0	0.596		0.679		0.563
7 - 9 Volume 7 - 9 Peak Hour				8 07:00		24 08:00		32 07:00	4 - 6 Volume 4 - 6 Peak Hour					36 16:00		5 16:15		41 16:00
7 - 9 Peak Hour 7 - 9 Pk Volume				7		08:00 13		18	4 - 6 Pk Volume					16:00 27		16:15 4		16:00 30
Pk Hr Factor				0.583		0.542		0.643	Pk Hr Factor					0.675		0.500		0.682

Duckhorn Vineyards Dwy N/O Lodi Ln

Day: Wednesday Date: 10/23/2019

	DAILY TOTA	VI S	_	NB	SB		EB	WB						To	otal
	DAILT TOTA	4L3		0	0		125	130						2	55
AM Period	NB SB	EB		WB	TC	TAL	PM Period	NB	SB	EB		WB		то	TAL
00:00		0		0	0		12:00			5		3		8	
00:15		0		0	0		12:15			1		1		2	
00:30		1		0	1		12:30			1		3		4	
00:45		1	2	0	1	2	12:45				14	6	13	13	27
01:00		0		0	0		13:00			4		3		7	
01:15		0		0	0		13:15 13:30			5 4		4		9	
01:30 01:45		0		0	0		13:45			4	17	3 2	12	7 6	29
02:00		0		0	0		14:00			3	1/	6	12	9	29
02:15		0		0	0		14:15			1		2		3	
02:30		Ö		0	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		0	0		15:30			6		2		8	
03:45		0	2	0	0	2	15:45			7	22	0	8	7	30
04:00		0		0	0		16:00			1		1		2	
04:15		0		0	0		16:15			13		3		16	
04:30		0		0	0	2	16:30			9	20	0	,	9	22
04:45		0		2 2	0	2	16:45 17:00			<u>6</u> 3	29	0	4	<u>6</u> 3	33
05:00 05:15		0		0	0		17:00 17:15			1		0		1	
05:30		0		0	0		17:30			1		0		1	
05:45		0		1 1	1	1	17:45			1	6	0		1	6
06:00		0		1	1		18:00			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		0		3	3		19:15			0		0		0	
07:30		1		1	2		19:30			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 4	3 5		20:15 20:30			0		0		0	
08:30 08:45		1 0	2	3 10	3	12	20:45			1	1	0		0 1	1
09:00		1		5	6	12	21:00			0		0		0	
09:15		0		0	0		21:15			0		0		0	
09:30		1		2	3		21:30			0		0		0	
09:45		3	5	3 10	6	15	21:45			0		0		0	
10:00		1		4	5		22:00			0		0		0	
10:15		1		3	4		22:15			0		0		0	
10:30		1		2	3		22:30			0		0		0	
10:45		3	6	5 14	8	20	22:45			0		0		0	
11:00		1		6	7		23:00			0		0		0	
11:15		2		5	7		23:15			0		0		0	
11:30		3	-	1	4	2.4	23:30			0		0		0	
11:45		1	7	5 17	6	24	23:45			0	60	0	55	0	45.5
TOTALS			26	75		101	TOTALS				99		55		154
SPLIT %			25.7%	74.3%	Ď	39.6%	SPLIT %				64.3%		35.7%		60.4%
	DAILY TOTA	\I C		NB	SB		EB	WB						To	otal
	DAILT TOTA	TEO .		0	0		125	130						2	55
AM Peak Hour			11:15	10:30		10:45	PM Peak Hour				16:15		14:00		12:45
AM Pk Volume			11	18		26	PM Pk Volume				31		17		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 Volume			3	11		13	4 - 6 Pk Volume				31		4		34
Pk Hr Factor			0.750	0.458		0.542	Pk Hr Factor				0.596		0.333		0.531
I K III I actol	0.000	0.000	0.750	0.436		0.342	1 40001	0.000	0.000		0.550		0.333		0.331

Duckhorn Vineyards Dwy N/O Lodi Ln

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

	DΔII Y	TOTALS		_	NB		SB		EB	WB	_						otal
	D/ ((L)	1017123			0		0		125	126						2!	51
AM Period	NB	SB	EB		WB		ТО	TAL	PM Period	NB	SB	ЕВ		WB		TO	TAL
00:00			0		0		0		12:00			6		7		13	
00:15			0		0		0		12:15			4		3		7	
00:30			0		0		0		12:30			3		2		5	
00:45			0		0		0		12:45			4	17	4	16	8	33
01:00			0		0		0		13:00			1		3		4	
01:15			0		0		0		13:15 13:30			1 5		3		4	
01:30 01:45			1	1	0 0		0 1	1	13:45			5 1	8	8 3	17	13 4	25
02:00			0		0		0		14:00			3	0	3	1/	6	
02:15			Ö		0		0		14:15			6		5		11	
02:30			0		1		1		14:30			0		1		1	
02:45			0		0	1	0	1	14:45			6	15	5	14	11	29
03:00			1		0		1		15:00			6		4		10	
03:15			0		0		0		15:15			5		2		7	
03:30			0		0		0		15:30			4		1		5	
03:45			0	1	0		0	1	15:45			6	21	0	7	6	28
04:00			0		0		0		16:00			8		2		10	
04:15			0		1		1		16:15			7		1		8	
04:30			1 0	1	1 1	2	2	4	16:30 16:45			7	22	1 0	4	8	27
04:45 05:00			2	11	0	3	2	4	17:00			11 2	33	0	4	11 2	37
05:15			0		0		0		17:15			1		0		1	
05:30			0		1		1		17:30			2		0		2	
05:45			0	2	1	2	1	4	17:45			1	6	0		1	6
06:00			0	_	2		2	_	18:00			0	-	0		0	
06:15			0		1		1		18:15			0		1		1	
06:30			0		0		0		18:30			0		0		0	
06:45			0		6	9	6	9	18:45			0		0	1	0	1
07:00			1		2		3		19:00			0		0		0	
07:15			1		8		9		19:15			0		0		0	
07:30			1		1		2		19:30			0		0		0	
07:45			1	4	1	12	2	16	19:45			0		0		0	
08:00			1		0		1		20:00 20:15			0		1		1	
08:15 08:30			0 1		2 2		2		20:30			0 1		0 0		0 1	
08:45			0	2	4	8	4	10	20:45			0	1	0	1	0	2
09:00			0		0		0	10	21:00			0		0		0	
09:15			1		0		1		21:15			0		0		0	
09:30			1		2		3		21:30			0		0		0	
09:45			0	2	11	13	11	15	21:45			0		Ō		0	
10:00			1		1		2		22:00			0		0		0	
10:15			0		3		3		22:15			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		0	1
11:00			1		5		6		23:00			0		0		0	
11:15			4		3		7		23:15			0		0		0	
11:30			2	0	2	11	4	10	23:30 23:45			0		0		0	
11:45 TOTALS			1	23	1	66	2	19 89	23:45 TOTALS			0	102	0	60	0	163
IOIALS								89					102				162
SPLIT %				25.8%		74.2%		35.5%	SPLIT %				63.0%		37.0%		64.5%
	DAILY	TOTALS -			NB		SB		EB	WB						To	otal
	DAILY	TOTALS			0		0		125	126							51
404 D. 1.11				11.45		00.45		11.45	DM Dogle Have				16.00		12.20		16.00
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	0.750		0.594		0.841
7 - 9 Volume				6		20		26	4 - 6 Volume				39		4		43
7 - 9 Peak Hour				07:00		07:00		07:00	4 - 6 Peak Hour				16:00		16:00		16:00
7 - 9 Pk Volume				4		12		16	4 - 6 Pk Volume				33		4		37
Pk Hr Factor	0.000	0.000		1.000		0.375		0.444	Pk Hr Factor	0.000		0.000	0.750		0.500		0.841

Duckhorn Vineyards Dwy N/O Lodi Ln

City: St Helena

59.5%

40.5%

63.9%

Day: Friday
Date: 10/25/2019

29.9%

70.1%

AM Period

00:00

00:15

00:30

00:45

01:00

01:15

01:30

01:45

02:00

02:15

02:30

02:45

03:00

03:15

03:30

03:45

04:00

04:15

04:30

04:45

05:00

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06:00

06:15

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06:45

07:00

07:15

07:30

07:45

08:00

08:15

08:30

08:45

09:00

09:15

09:30

09:45

10:00

10:15

10:30

10:45

11:00

11:15

11:30

11:45

TOTALS

SPLIT %

Project #: CA19_8531_001 NB SB ΕB WB Total **DAILY TOTALS** NB SB EВ WB **TOTAL PM Period** NB SB ЕВ WB **TOTAL** 12:00 0 12:15 12:30 12:45 13:00 13:15 13:30 13:45 14:00 2 7 14:15 O O O 14:30 14:45 15:00 15:15 15:30 15:45 16:00 16:15 16:30 16:45 O O O 17:00 17:15 17:30 17:45 18:00 18:15 18:30 18:45 19:00 19:15 O O 19:30 19:45 Ω Λ Λ n 20:00 20:15 20:30 20:45 21:00 21:15 21:30 21:45 22:00 22:15

22:30

22:45

23:00

23:15

23:30

23:45

TOTALS

SPLIT %

	DAILVITO	TALC		NB	SB	EB	WB				Total
	DAILY TO	IALS	-	0	0	185	194				379
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			0.333	0.528	0.556	Pk Hr Factor			0.850	0.333	0.841

36.1%

Duckhorn Vineyards Dwy N/O Lodi Ln

Day: Saturday **Date:** 10/26/2019

	DAILY TOTALS		_	NB	SB	i	EB	WB	_						tal
	DAILT TOTALS			0	0		178	185						36	63
AM Period	NB SB	EB		WB	T	OTAL	PM Period	NB	SB	EB		WB		TO	TAL
00:00		0		0	0		12:00			10		5		15	
00:15 00:30		0 0		0 0	0		12:15 12:30			7 6		6 6		13 12	
00:45		0		0	0		12:45			1	24	7	24	8	48
01:00		0		0	0		13:00			1		6		7	
01:15		0		0	0		13:15			8		2		10	
01:30		0		0	0		13:30			6		2		8	
01:45		1	11	0	0	1	13:45 14:00			<u>5</u> 7	20	9	19	14	39
02:00 02:15		0 0		0	0		14:15			4		10 6		17 10	
02:30		0		0	ő		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 1	-	1 0 3	3		15:30 15:45			6 13	20	0 4	17	6	45
03:45 04:00		0	5	0 3	0	8	16:00			9	28	2	17	17 11	45
04:15		0		1	1		16:15			5		1		6	
04:30		Ö		0	ō		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		1	5		17:15			2		1		3	
05:30 05:45		0 0	4	0 0 1	0	5	17:30 17:45			0 0	3	0 0	6	0 0	9
06:00		0	4	0 1	0		18:00			0	<u> </u>	0	U	0	9
06:15		0		0	o		18:15			2		Ö		2	
06:30		0		2	2		18:30			1		0		1	
06:45		0		3 5	3	5	18:45			6	9	0		6	9
07:00		0		2	2		19:00			4		0		4	
07:15		0		0	0		19:15 19:30			0		0		0	
07:30 07:45		0 0		0 1 3	0	3	19:45			0 0	4	0 0		0	4
08:00		0		1	1		20:00			0		0		0	-4
08:15		0		2	2		20:15			0		Ö		0	
08:30		0		9	9		20:30			0		0		0	
08:45		0		7 19	7	19	20:45			0		0		0	
09:00		0		2	2		21:00			0		0		0	
09:15		0		1	1		21:15 21:30			0		0 0		0	
09:30 09:45		0 0		2 4 9	2	9	21:45			1 0	1	0		1 0	1
10:00		3		6	9	<u> </u>	22:00			0		0		0	
10:15		1		5	6		22:15			0		Ō		0	
10:30		2		5	7		22:30			0		0		0	
10:45		1	7	4 20	5	27	22:45			0		0		0	
11:00		3		6	9		23:00			0		0		0	
11:15 11:30		2 4		4 5	6		23:15 23:30			0 0		0 0		0	
11:45		7	16	5 7 22	14	38	23:45			0		0		0	
TOTALS		•	33	86		119	TOTALS				145	-	99		244
SPLIT %			27.7%	72.39	6	32.8%	SPLIT %				59.4%		40.6%		67.2%
	DAILY TOTALS			NB	SB		EB	WB	_						tal
				0	0		178	185						36	63
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				0.635		0.775		0.779
7 - 9 Volume	0 0		0	22		22	4 - 6 Volume	0		0	34		16		50
7 - 9 Peak Hour				08:00)	08:00	4 - 6 Peak Hour				16:00		16:15		16:00
7 - 9 Pk Volume				19		19	4 - 6 Pk Volume				31		13		41
Pk Hr Factor	0.000 0.00	00	0.000	0.528		0.528	Pk Hr Factor	0.000	0.	000	0.705		0.650		0.641

Lodi Ln W/O Duckhorn Vineyards Dwy

Day: Friday Date: 10/18/2019

DAILY TOTALS					NB		SB		EB WB							Total		
	DAILTIO	ALS			0		0		781		953						1,	734
AM Period	NB SI	В	EB		WB		TO	TAL	PM Period	NB		SB	EB		WB		то	TAL
00:00			0		0		0		12:00				15		19		34	
00:15			1		2		3		12:15				15		17		32	
00:30			0	_	0	_	0		12:30				12		18		30	
00:45			1	2	0	2	1	4	12:45				16	58	18	72	34	130
01:00			2		3		5		13:00 13:15				14		21		35 47	
01:15 01:30			3 0		2 0		5 0		13:30				18 20		29 28		47 48	
01:45			2	7	3	8	5	15	13:45				23	75	23	101	46	176
02:00			0		0	- 0	0		14:00				17	,,,	23	101	40	170
02:15			1		1		2		14:15				22		35		57	
02:30			0		0		0		14:30				20		51		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		44	
03:30			1	_	1	_	2		15:30				16		28		44	
03:45			1	2	1	3	2	5	15:45				31	87	30	102	61	189
04:00			2		2		4		16:00 16:15				24		22		46	
04:15 04:30			2 0		2		4 0		16:15				8 20		9 21		17 41	
04:30			3	7	3	7	6	14	16:45				20 12	64	15	67	27	131
05:00			0		0		0		17:00				15	- 04	15	07	30	131
05:15			4		4		8		17:15				11		14		25	
05:30			4		3		7		17:30				5		7		12	
05:45			2	10	2	9	4	19	17:45				6	37	5	41	11	78
06:00			7		6		13		18:00				8		5		13	
06:15			6		5		11		18:15				12		12		24	
06:30			8		8		16		18:30				0		4		4	
06:45			14	35	10	29	24	64	18:45				1	21	0	21	1	42
07:00			5		5		10		19:00 19:15				6		5		11	
07:15 07:30			12 5		7 7		19 12		19:15				7 5		5 3		12 8	
07:30			5 11	33	, 17	36	28	69	19:45				3	21	5 5	18	8	39
08:00			14		22	30	36	- 05	20:00				2		3	10	5	
08:15			16		16		32		20:15				3		4		7	
08:30			9		12		21		20:30				2		2		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		3	
09:15			10		15		25		21:15				1		1		2	
09:30			10		11		21		21:30				1		0		1	
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 22:30				0		0		0	
10:30 10:45			17 18	66	20 21	73	37 39	139	22:30				2 2	10	1 1	6	3 3	16
11:00			13	00	21	13	34	133	23:00				1	10	0	U	<u> </u>	10
11:15			13		16		29		23:15				0		0		0	
11:30			9		14		23		23:30				1		1		2	
11:45			20	55	17	68	37	123	23:45				0	2	Ō	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		EB		WB						Te	otal
	DAILY TOT	TALS									953							734
					0		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				0.917		0.976		0.942	Pk Hr Factor					0.758		0.784		0.818
7 - 9 Volume	0	0		86		102		188	4 - 6 Volume		0	()	101		108		209
7 - 9 Peak Hour				08:00		07:45		08:00	4 - 6 Peak Hour					16:00		16:00		16:00
7 - 9 Pk Volume				53		67		119	4 - 6 Pk Volume					64		67		131
Pk Hr Factor	0.000	0.000		0.828		0.761		0.826	Pk Hr Factor		0.000	0.0	000	0.667		0.761		0.712

Lodi Ln W/O Duckhorn Vineyards Dwy

Day: Saturday **Date:** 10/19/2019

	DAILY TO	TAIS		_	NB		SB		EB	WI							otal
	5, 1121 10	., (15			0		0		625	67	4					1,7	299
AM Period	NB S	SB	EB		WB		TO	TAL	PM Period	NB	SB	EB		WB		TO	TAL
00:00			2		1		3		12:00			13		17		30	
00:15			1		1		2		12:15			16		26		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		41	
01:15			0 0		0		0		13:15 13:30			14		24		38	
01:30 01:45			1	1	0 1	1	0	2	13:45			14 15	65	17 19	79	31 34	144
02:00			0		0		0		14:00			14	03	19	75	33	144
02:15			0		0		0		14:15			12		12		24	
02:30			0		1		1		14:30			13		12		25	
02:45			0		0	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	
03:30			0		0		0		15:30			17		17		34	
03:45			0		0	1	0	1	15:45			17	67	14	60	31	127
04:00			0		0		0		16:00			21		21		42	
04:15			0		0		0		16:15 16:30			15		12		27	
04:30 04:45			0		0		0		16:30			8 14	58	14 14	61	22 28	119
05:00			0		0		0		17:00			12	36	10	91	22	119
05:15			0		0		0		17:15			15		12		27	
05:30			2		1		3		17:30			10		6		16	
05:45			1	3	1	2	2	5	17:45			3	40	5	33	8	73
06:00			1		2		3		18:00			9		5		14	
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
07:00			3		3		6		19:00			8		3		11	
07:15			2		1		3		19:15			4		3		7	
07:30			3	12	4	15	7	20	19:30			7	24	5	1.0	12	40
07:45 08:00			<u>5</u>	13	<u>7</u> 8	15	12 14	28	19:45 20:00			5 7	24	<u>5</u>	16	10 13	40
08:00			10		7		17		20:15			3		3		6	
08:30			15		14		29		20:30			0		0		0	
08:45			17	48	14	43	31	91	20:45			5	15	5	14	10	29
09:00			8	-	9		17		21:00			4		3		7	
09:15			9		13		22		21:15			4		3		7	
09:30			6		8		14		21:30			1		0		1	
09:45			9	32	11	41	20	73	21:45			1	10	0	6	1	16
10:00			10		7		17		22:00			1		2		3	
10:15			8		12		20		22:15			0		0		0	
10:30			11	20	18	40	29	07	22:30			2	A	1	_	3	
10:45 11:00			10 9	39	<u>11</u> 9	48	21 18	87	22:45 23:00			<u>1</u> 0	4	0	5	3	9
11:00			9 15		9 16		31		23:15			2		2		4	
11:30			14		12		26		23:30			1		3		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%
	DAHVIA	TALC			NB		SB		EB	WI	В					To	otal
	DAILY TO	TALS			0		0		625	67							299
AM Peak Hour				11:45		11:45		11:45	PM Peak Hour				12:15		12:15		12:15
AM Pk Volume				64		93		157	PM Pk Volume				73		90		163
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
7 - 9 Peak Hour				08:00		08:00		08:00	4 - 6 Peak Hour				16:00		16:00		16:00
7 - 9 Pk Volume				48		43		91	4 - 6 Pk Volume				58		61		119
Pk Hr Factor				0.706		0.768		0.734	Pk Hr Factor				0.690		0.726		0.708

Lodi Ln W/O Duckhorn Vineyards Dwy

Day: Sunday Date: 10/20/2019

	DAILY TOT	ΓΛΙς			NB	SB		EB	WB						To	otal
	DAILTIO	ALS			0	0		348	353						70	01
AM Period	NB SE	R	ЕВ	\	NB	TC	TAL	PM Period	NB	SB	EB		WB		TO	TAL
00:00	110 3.		5		4	9	A.A.	12:00	110	35	7		6		13	.,,,_
00:15			0		0	Ö		12:15			5		7		12	
00:30			0		2	2		12:30			8		9		17	
00:45			0		0 6	0	11	12:45			14	34	16	38	30	72
01:00			0		0	0		13:00			7		7		14	
01:15			2		2	4		13:15			4		9		13	
01:30			0		0 2	0	4	13:30 13:45			9 5	25	11 7	24	20	59
01:45 02:00			0		0 2	0	4	14:00			13	25	11	34	12 24	39
02:15			0		0	ő		14:15			3		4		7	
02:30			0		0	0		14:30			9		9		18	
02:45			1	1	1 1	2	2	14:45			7	32	8	32	15	64
03:00			0		0	0		15:00			11		13		24	
03:15			0		0	0		15:15			12		12		24	
03:30			1		1	2	2	15:30			9	20	14		23	00
03:45 04:00			0		0 1	0	2	15:45 16:00			<u>6</u> 5	38	5 6	44	11 11	82
04:00			0		0	0		16:15			3		8		11	
04:15			0		0	0		16:30			12		10		22	
04:45			1		1 1	2	2	16:45			7	27	7	31	14	58
05:00			0		0	0		17:00			7		7		14	
05:15			0		0	0		17:15			5		4		9	
05:30			2		2	4		17:30			10		9		19	
05:45			0		0 2	0	4	17:45			10	32	7	27	17	59
06:00 06:15			1 0		0	1 0		18:00 18:15			9 3		10		19	
06:15			3		0 2	5		18:30			3		2 5		5 8	
06:45			3		4 6	7	13	18:45			0	15	0	17	0	32
07:00			1		0	1	-10	19:00			2		2		4	- 52
07:15			1		0	1		19:15			2		1		3	
07:30			2		2	4		19:30			0		0		0	
07:45			4		2 4	6	12	19:45			1	5	2	5	3	10
08:00 08:15			3 6		6	9 11		20:00 20:15			2 1		1		3	
08:30			0		5 0	0		20:30			1		1 0		2 1	
08:45					3 14	12	32	20:45			0	4	2	4	2	8
09:00			6		7	13		21:00			4		3		7	
09:15			1		1	2		21:15			3		4		7	
09:30			7		6	13		21:30			1		0		1	
09:45					6 20	14	42	21:45			0	8	1	8	1	16
10:00			5		6	11		22:00 22:15			2		2		4	
10:15 10:30			12 6		8 9	20 15		22:30			1 1		0 2		1 3	
10:30					3 26	8	54	22:45			3	7	1	5	3 4	12
11:00			8		5	13		23:00			0	•	0	-	0	
11:15			7		9	16		23:15			1		1		2	
11:30			3		2	5		23:30			0		1		1	
11:45					7 23	14	48	23:45			0	11	0	2	0	3
TOTALS			1	120	106		226	TOTALS				228		247		475
SPLIT %			5	3.1%	46.9%		32.2%	SPLIT %				48.0%		52.0%		67.8%
	DAILY TOT	ΓΔΙς			NB	SB		EB	WB						To	otal
	— BAILT TO	ALS			0	0		348	353						70	01
AM Peak Hour			0	9:30	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	0.667	0.806		0.750	Pk Hr Factor				0.813		0.839		0.896
7 - 9 Volume	0	0		26	18		44	4 - 6 Volume	0	0		59		58		117
7 - 9 Peak Hour				08:00	07:30		08:00	4 - 6 Peak Hour				17:00		16:15		16:15
7 - 9 Pk Volume				18	15		32	4 - 6 Pk Volume				32		32		61
Pk Hr Factor	0.000	0.000	0).500	0.625		0.667	Pk Hr Factor	0.000	0.00	10	0.800		0.800		0.693

Lodi Ln W/O Duckhorn Vineyards Dwy

 Day:
 Monday
 City:
 St Helena

 Date:
 10/21/2019
 Project #:
 CA19_8531_002

	DAILY TOTALS			NB 0		SB 0		EB 604		WB 725							otal 329
AM Period	NB SB	ЕВ		WB		TO	TAL	PM Period	NB		SB	EB		WB			TAL
00:00		0		0		0		12:00				8		10		18	
00:15		1		1		2		12:15				13		18		31	
00:30		0		0		0		12:30				18		16		34	
00:45		0	1	0	1	0	2	12:45 13:00				15	54	12	56	27 19	110
01:00 01:15		0		0 1		0 1		13:15				8 10		11 14		19 24	
01:30		0		0		0		13:30				16		18		34	
01:45		0		0	1	0	1	13:45				7	41	4	47	11	88
02:00		0		0		0		14:00				20		25		45	
02:15		0		0		0		14:15				11		12		23	
02:30 02:45		0		0		0		14:30 14:45				7 18	56	7 23	67	14 41	123
03:00		0		0		0		15:00				16	30	21	- 07	37	123
03:15		0		0		0		15:15				18		30		48	
03:30		0		0		0		15:30				16		14		30	
03:45		1	11	11	1	2	2	15:45				6	56	8	73	14	129
04:00 04:15		0		1 0		1 0		16:00 16:15				9 16		15 15		24 31	
04:15		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		16		29	
05:15		0		0		0		17:15				14		12		26	
05:30 05:45		3 0	9	3 0	9	6 0	18	17:30 17:45				15 10	52	10 13	51	25 23	103
06:00		7		8	9	15	10	18:00				4	32	9	31	13	103
06:15		2		3		5		18:15				9		12		21	
06:30		8		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 07:15		11 14		12 12		23 26		19:00 19:15				0 0		0 0		0	
07:30		8		10		18		19:30				3		3		6	
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 08:30		5 8		9 13		14 21		20:15 20:30				3 2		5		8 4	
08:45		9	36	10	57	19	93	20:45				3	13	2 1	12	4	25
09:00		9	30	10	37	19		21:00				3		2		5	
09:15		8		9		17		21:15				1		1		2	
09:30		7		15		22		21:30				1	_	1	_	2	
09:45		10 13	34	16 14	50	26 27	84	21:45 22:00				<u>0</u> 3	5	3	5	1 6	10
10:00 10:15		14		11		25		22:15				1		1		2	
10:30		14		16		30		22:30				1		1		2	
10:45		7	48	13	54	20	102	22:45				0	5	0	5	0	10
11:00		10		11		21		23:00				1		1		2	
11:15 11:30		6 12		8 21		14		23:15 23:30				0		0		0 2	
11:30 11:45		13 16	45	21 23	63	34 39	108	23:45				1 0	2	1 0	2	0	4
TOTALS		0	246		313		559	TOTALS					358		412		770
SPLIT %			44.0%		56.0%		42.1%	SPLIT %					46.5%		53.5%		57.9%
				NID		CD.		ED		VA/D						-70	stal
	DAILY TOTALS			NB 0		SB 0		EB 604		WB 725							otal 329
				- 0		- 0		- 004		723						±,.	<i></i>
AM Peak Hour			11:45		11:30		11:30	PM Peak Hour					14:45		14:45		14:45
AM Pk Volume			55		72		122	PM Pk Volume					68		88		156
Pk Hr Factor			0.764		0.783		0.782	Pk Hr Factor					0.944		0.733		0.813
7 - 9 Volume			77		106		183	4 - 6 Volume					99		111		210
7 - 9 Peak Hour			07:15		07:15		07:15	4 - 6 Peak Hour 4 - 6 Pk Volume					16:45		16:15		16:15
7 - 9 Pk Volume Pk Hr Factor			44 0.786		62 0.620		106 0.679	Pk Hr Factor					53 0.883		61 0.953		112 0.903
PK HI FACTOR	0.000 0.000		0.786		0.620		0.679	rk Hi Factor		0.000		0.000	0.883		0.953		0.903

Lodi Ln W/O Duckhorn Vineyards Dwy

Day: Tuesday **Date:** 10/22/2019

	DAILY TOTAL	S	-	NB 0		SB 0		EB 590		WB 691							otal 281
AM Period	NB SB	ЕВ		WB		TC	TAL	PM Period	NB		SB	EB		WB		ТО	TAL
00:00		1		1		2		12:00				9		18		27	
00:15		0		0		0		12:15				18		13		31	
00:30 00:45		0 0	1	0 0	1	0	2	12:30 12:45				7 7	41	9 11	E 1	16 18	92
01:00		0	11	0	1	0		13:00				16	41	14	51	30	92
01:15		Ö		1		1		13:15				9		14		23	
01:30		0		0		0		13:30				11		12		23	
01:45		0		0	1	0	1	13:45 14:00				10 10	46	13 12	53	23	99
02:00 02:15		0		0		0		14:15				10		11		22	
02:30		1		1		2		14:30				7		16		23	
02:45		0	1	0	1	0	2	14:45				15	42	21	60	36	102
03:00		0		0		0		15:00 15:15				14 7		18		32	
03:15 03:30		0 0		0 1		0		15:30				13		16 12		23 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 04:30		0 0		0 0		0		16:15 16:30				7 6		10 7		17 13	
04:45		4	4	4	4	8	8	16:45				19	42	13	38	32	80
05:00		4		4	-	8		17:00				15		12	55	27	
05:15		4		5		9		17:15				9		11		20	
05:30		4	1.4	4	15	8	20	17:30 17:45				10	20	13	20	23 7	77
05:45 06:00		<u>2</u> 4	14	3	15	7	29	18:00				<u>4</u> 6	38	<u>3</u> 8	39	14	77
06:15		3		2		5		18:15				7		7		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 07:15		7 11		8 9		15 20		19:00 19:15				2 7		4 5		6 12	
07:30		7		13		20		19:30				4		3		7	
07:45		14	39	18	48	32	87	19:45				3	16	3	15	6	31
08:00		22		31		53		20:00 20:15				4		2		6	
08:15 08:30		16 7		17 12		33 19		20:30				4 2		5 1		9 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	
09:15		11		18		29		21:15 21:30				3 0		2		5	
09:30 09:45		10 19	52	12 14	63	22 33	115	21:45				0	5	0	4	0	9
10:00		8	- 52	10	- 00	18		22:00				3		1	·	4	
10:15		13		12		25		22:15				1		3		4	
10:30		10	4.4	12	45	22	90	22:30 22:45				1 4	9	1	0	2	10
10:45 11:00		13 10	44	11 14	45	24 24	89	23:00				1	3	2	9	3	18
11:15		12		18		30		23:15				1		0		1	
11:30		8	40	10		18	67	23:30				1	2	0	_	1	_
11:45 TOTALS		10	40 279	15	57 330	25	97 609	23:45 TOTALS				0	3 311	0	361	0	5 672
SPLIT %			45.8%		54.2%		47.5%	SPLIT %					46.3%		53.7%		52.5%
J. 211 70			.5.070	NE	3270	0.0	., 15/0			14/2			.0.570		33.770		
	DAILY TOTAL	S		NB 0		SB 0		EB 590		WB 691							otal 281
AM Pack Hay			07:20		07.20		07.20	PM Peak Hour					16.45		14:20		
AM Peak Hour AM Pk Volume			07:30 59		07:30 79		07:30 138	PM Pk Volume					16:45 53		14:30 71		14:45 116
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
Pk Hr Factor	0.000	0.000	0.670		0.637		0.651	Pk Hr Factor		0.000	C	0.000	0.697		0.942		0.797

Lodi Ln W/O Duckhorn Vineyards Dwy

Day: Wednesday Date: 10/23/2019

DAILY TOTALS				NB		SB		EB WB							Total		
	DAILT TOTA	ALS		0		0		834	1,005						1,8	839	
AM Period	NB SB	EB		WB		TO	TAL	PM Period	NB	SB	EB		WB		то	TAL	
00:00		0		0		0		12:00			14		15		29		
00:15		0		0		0		12:15			18		20		38		
00:30		2		3		5		12:30			14		15		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 13:30			19 7		17		36		
01:30 01:45		0		0 0		0		13:45			8	48	10 8	48	17 16	96	
02:00		0		0		0		14:00			8	40	16	40	24	90	
02:15		0		0		0		14:15			13		17		30		
02:30		0		Ō		0		14:30			11		13		24		
02:45		2	2	2	2	4	4	14:45			14	46	11	57	25	103	
03:00		0		0		0		15:00			16		17		33		
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 16:15			14		9		23		
04:15 04:30		0		0 0		0		16:15			20 8		12 9		32 17		
04:30		9	10	8	8	17	18	16:45			8	50	9	39	17	89	
05:00		1	10	1	J	2	10	17:00			10	30	12	33	22	03	
05:15		6		6		12		17:15			9		8		17		
05:30		2		2		4		17:30			11		16		27		
05:45		5	14	5	14	10	28	17:45			6	36	8	44	14	80	
06:00		4		3		7		18:00			7		13		20		
06:15		6		7		13		18:15			5		4		9		
06:30		8		7		15		18:30			3		5		8		
06:45		20	38	19	36	39	74	18:45			6	21	6	28	12	49	
07:00		33		42		75		19:00 19:15			5		6		11		
07:15 07:30		34 14		53 52		87 66		19:30			3 3		2 2		5 5		
07:45		37	118	81	228	118	346	19:45			8	19	6	16	14	35	
08:00		32	110	49	220	81	340	20:00			0	13	1	10	1		
08:15		34		30		64		20:15			2		3		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		16		16		32		21:30			1		0	_	1		
09:45		12	61	13	66	25	127	21:45			4	11	3	5	7	16	
10:00		21		16		37 24		22:00 22:15			1 2		1		2		
10:15 10:30		10 10		14 11		24		22:30			5		2 5		4 10		
10:30		9	50	24	65	33	115	22:45			2	10	1	9	3	19	
11:00		11	30	18	0.5	29	113	23:00			1		0		1	13	
11:15		15		12		27		23:15			0		0		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						To	otal	
	DAILY TOTA	ALS		0		0		834	1,005							839	
AM Peak Hour			07:45		07:15		07:15	PM Peak Hour				12:30		12:00		12:00	
AM Pk Volume			136		235		352	PM Pk Volume				65		71		135	
Pk Hr Factor			0.919		0.725		0.746	Pk Hr Factor				0.855		0.845		0.865	
7 - 9 Volume			234		358		592	4 - 6 Volume				86		83		169	
7 - 9 Peak Hour			07:45		07:15		07:15	4 - 6 Peak Hour				16:00		16:45		16:00	
7 - 9 Pk Volume			136		235		352	4 - 6 Pk Volume				50		45		89	
Pk Hr Factor	0.000	0.000	0.919		0.725		0.746	Pk Hr Factor	0.000	0.0	00	0.625		0.703		0.695	

VOLUME

Lodi Ln W/O Duckhorn Vineyards Dwy

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

City: St Helena
Project #: CA19_8531_002

	DAILY TOT	TALS			NB		SB		EB	WE	_						otal
	B/((E) 101	7123			0		0		620	698	3					1,3	318
AM Period	NB SE	В	EB		WB		TO	TAL	PM Period	NB	SB	EB		WB		TO	TAL
00:00			0		4		4		12:00			18		19		37	
00:15			0		0		0		12:15			6		12		18	
00:30			4		1		5		12:30			16		14		30	
00:45			0	4	0	5	0	9	12:45			7	47	14	59	21	106
01:00			0		2		2		13:00			13		13		26	
01:15			0		0		0		13:15 13:30			11		9		20	
01:30 01:45			0		0 1	3	0 1	3	13:45			18 15	57	15 13	50	33 28	107
02:00			0		0	3	0	3	14:00			8	37	9	30	17	107
02:15			2		1		3		14:15			17		26		43	
02:30			0		0		0		14:30			9		11		20	
02:45			0	2	0	1	0	3	14:45			15	49	24	70	39	119
03:00			0		0		0		15:00			14		17		31	
03:15			0		0		0		15:15			10		10		20	
03:30			0		0		0		15:30			13		22		35	
03:45			0		0		0		15:45			6	43	8	57	14	100
04:00			0		0		0		16:00			14		16		30	
04:15			0		0		0		16:15 16:30			12		14		26	
04:30 04:45			1 3	4	1 3	4	2 6	8	16:30			12 7	45	13 10	53	25 17	98
05:00			1	4	1	4	2	0	17:00			8	43	4	33	12	36
05:15			3		5		8		17:15			7		9		16	
05:30			3		2		5		17:30			8		10		18	
05:45			2	9	1	9	3	18	17:45			8	31	7	30	15	61
06:00			2		1		3		18:00			7		8		15	
06:15			2		2		4		18:15			7		6		13	
06:30			7		5		12		18:30			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	
07:15			10		14		24		19:15			3		2		5	
07:30			11	40	11	4.0	22	0.0	19:30			3 7	10	3	10	6	27
07:45 08:00			13 11	40	15 19	46	28 30	86	19:45 20:00			5	18	9	19	16 9	37
08:00			16		20		36		20:15			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		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			8		8		16		22:15			5		2		7	
10:30			8	40	14	43	22	02	22:30			4	12	3	e e	7	21
10:45 11:00			17 9	40	14 11	42	31 20	82	22:45 23:00			<u>1</u> 0	13	1	8	2	21
11:00			9 15		16		31		23:15			0		0		0	
11:30			11		9		20		23:30			0		0		0	
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 TOT	TALS.			NB		SB		EB	WE	3					To	otal
	DAILY TOT	ALS			0		0		620	698	3					1,3	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	0	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		16:00		16:00
7 - 9 Pk Volume				51		68		116	4 - 6 Pk Volume				45		53		98
Pk Hr Factor				0.797		0.850		0.806	Pk Hr Factor				0.804		0.828		0.817
	0.000	0.000		0., 5,		0.000		0.500		0.00			0.504		0.020		J.U.

VOLUME

Lodi Ln W/O Duckhorn Vineyards Dwy

Day: Friday Date: 10/25/2019 City: St Helena
Project #: CA19_8531_002

	DAILY TOTA	NI S		NB		SB		EB	V	WB						To	otal
	DAILT TOTA	1L3		0		0		713	8	59						1,!	572
AM Period	NB SB	EE	3	WB		TO	TAL	PM Period	NB	SE	3	ЕВ		WB		то	TAL
00:00		2		2		4		12:00				9		20		29	
00:15		0		1		1		12:15				16		23		39	
00:30		0	_	0		0	_	12:30				12		16		28	
00:45		1	3	1	4	2	7	12:45				22	59	23	82	45	141
01:00		0		2		2		13:00 13:15				11 11		25		36	
01:15 01:30		0		0 0		0		13:30				20		17 31		28 51	
01:45		0		0	2	0	2	13:45				15	57	18	91	33	148
02:00		3		3		6		14:00				8	37	14	J1	22	140
02:15		1		1		2		14:15				14		17		31	
02:30		0		0		0		14:30				22		25		47	
02:45		1	5	1	5	2	10	14:45				23	67	18	74	41	141
03:00		0		0		0		15:00				15		22		37	
03:15		0		0		0		15:15				15		27		42	
03:30		3	2	3	2	6	_	15:30				12		24	00	36	4.47
03:45 04:00		0	3	0	3	0	6	15:45 16:00				15 15	57	17 23	90	32	147
04:00		0		0		0		16:15				9		10		38 19	
04:30		0		0		0		16:30				10		11		21	
04:45		3	3	3	3	6	6	16:45				11	45	16	60	27	105
05:00		0		0	,	0		17:00				13		19		32	
05:15		2		2		4		17:15				5		8		13	
05:30		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		2		18:00				10		13		23	
06:15		5		5		10		18:15				17		12		29	
06:30		5	24	7	21	12	45	18:30				5	20	4	25	9	72
06:45 07:00		13 7	24	<u>8</u> 7	21	21 14	45	18:45 19:00				<u>6</u>	38	6	35	12 11	73
07:00		9		9		18		19:15				3		3		6	
07:30		12		9		21		19:30				4		4		8	
07:45		17		25	50	42	95	19:45				5	17	4	17	9	34
08:00		17		26		43		20:00				3		1		4	
08:15		7		15		22		20:15				6		7		13	
08:30		21		22		43		20:30				2		2		4	
08:45		17	62	8	71	25	133	20:45				2	13	2	12	4	25
09:00		7		10		17		21:00				3		2		5	
09:15		9		16		25		21:15 21:30				3		2		5	
09:30 09:45		11 8	35	8 8	42	19 16	77	21:45				4 3	13	4 4	12	8 7	25
10:00		13		13	42	26		22:00				3	13	3	12	6	23
10:15		11		13		24		22:15				1		1		2	
10:30		5		11		16		22:30				3		2		5	
10:45		10	39	12	49	22	88	22:45				4	11	1	7	5	18
11:00		12		16		28		23:00				1		1		2	
11:15		15		18		33		23:15				1		1		2	
11:30		16		17	60	33	1	23:30				1	•	2	,	3	_
11:45		11		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%
	DAILY TOT	NIC		NB		SB		EB		VΒ						Tc	otal
	DAILY TOTA	ALS .		0		0		713	8	59						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
Pk Hr Factor			0.738		0.846		0.872	Pk Hr Factor					0.815		0.774		0.888
7 - 9 Volume	0	0	107		121		228	4 - 6 Volume		0	0		88		112		200
7 - 9 Peak Hour			07:45		07:45		07:45	4 - 6 Peak Hour					16:00		16:00		16:00
7 - 9 Pk Volume			62		88		150	4 - 6 Pk Volume					45		60		105
Pk Hr Factor			0.738		0.846		0.872	Pk Hr Factor					0.750		0.652		0.691
	0.000	-0.000	0.750		0.040		U.J, L		0.		0.000		0., 50		0.002		U.UJ1

VOLUME

Lodi Ln W/O Duckhorn Vineyards Dwy

Day: Saturday **Date:** 10/26/2019

City: St Helena
Project #: CA19_8531_002

	DAILY	Y TOTALS			NB		SB		EB	WE							otal
	DAIL	ITOTALO			0		0		523	57:	1					1,0	094
AM Period	NB	SB	EB		WB		TO	TAL	PM Period	NB	SB	EB		WB		TO	TAL
00:00			0		0		0		12:00			10		19		29	
00:15			1		1		2		12:15			8		14		22	
00:30			2		2		4		12:30			7		14		21	
00:45			0	3	0	3	0	6	12:45			12	37	11	58	23	95
01:00			1		2		3		13:00			10		10		20	
01:15			1		1		2		13:15			12		13		25	
01:30			0 3	5	0 3	_	0	11	13:30 13:45			9	4.4	14	F0	23	94
01:45 02:00			4	5	4	6	6 8	11	14:00			13 17	44	13 18	50	26 35	94
02:00			1		1		2		14:15			7		8		15	
02:30			Ō		0		0		14:30			15		19		34	
02:45			3	8	2	7	5	15	14:45			5	44	7	52	12	96
03:00			2		1		3		15:00			15		22		37	
03:15			1		2		3		15:15			12		9		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		23	
04:15			4		3		7		16:15			8		9		17	
04:30			0	_	0	_	0	42	16:30			8	22	11	4.3	19	75
04:45			3	7	2	5	5	12	16:45			4	32	12	43	16	75
05:00			3 2		3		6		17:00 17:15			11 7		10		21	
05:15 05:30			1		2 0		4 1		17:30			8		4 13		11 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	- 33	13	33	27	- 00
06:15			1		1		2		18:15			8		3		11	
06:30			6		6		12		18:30			7		4		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		5	
07:30			3		4		7		19:30			2		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			7		6		13	
08:15			7		7		14		20:15			0		1		1	
08:30			6 9	25	3	10	9	12	20:30 20:45			0 4	11	0 5	12	0	22
08:45 09:00			7	25	5 11	18	14 18	43	21:00			1	11	0	12	9	23
09:00			7		5		12		21:15			3		3		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			15		18		33		22:00			1		1		2	
10:15			8		9		17		22:15			4		5		9	
10:30			7		7		14		22:30			2		3		5	
10:45			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		9	
11:30			9	2.	10	20	19	70	23:30			3		2		5	10
11:45			8	34	9	39	17	73	23:45			2	11	2	8	4	19
TOTALS				197		205		402	TOTALS				326		366		692
SPLIT %				49.0%		51.0%		36.7%	SPLIT %				47.1%		52.9%		63.3%
	D.4.114	/ TOTAL			NB		SB		EB	WE	3					To	otal
	DAIL	TOTALS		-	0		0		523	57:							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				39		35		74	4 - 6 Volume				65		78		143
7 - 9 Peak Hour				08:00		07:30		08:00	4 - 6 Peak Hour				17:00		16:00		16:00
7 - 9 Pk Volume				25		20		43	4 - 6 Pk Volume				33		43		75
Pk Hr Factor	0.00	0.000)	0.694		0.714		0.768	Pk Hr Factor	0.00	0	0.000	0.750		0.896		0.815

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
	1.00 2.00 1 111	332				5.55

Note: All volumes are total volumes through intersection.

Source: Crane Transportation Group



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Appendix C

Intersection Level of Service Calculations





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Generated with Version 7.00-06

Generated with PTV VISTRO

Intersection Level Of Service Report Intersection 1: SR 29/Lodi Ln

Control Type: Two-way stop
Analysis Method: HCM 6th Edition
Analysis Period: 15 minutes

 Delay (sec / veh):
 56.0

 Level Of Service:
 F

 Volume to Capacity (v/c):
 0.606

Intersection Setup

intersection detap							
Name	SF	SR 29		R 29	Lodi Ln		
Approach	North	Northbound		Southbound		bound	
Lane Configuration	1	→	+	ıİ	Ψ.		
Turning Movement	Thru	Right	Left	Thru	Left	Right	
Lane Width [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 Length [ft]	100.00	100.00	90.00	100.00	100.00	100.00	
Speed [mph]	50	50.00		50.00		.00	
Grade [%]	0.	0.00		0.00		.00	
Crosswalk	1	No		No	No		

Volumes

Name	SR	29	SR	29	Lod	i Ln	
Base Volume Input [veh/h]	667	40	22	622	85	37	
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	
Heavy Vehicles Percentage [%]	4.00	4.00	4.00	4.00	4.00	4.00	
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	
In-Process Volume [veh/h]	0	0	0	0	0	0	
Site-Generated Trips [veh/h]	0	0	0	0	0	0	
Diverted Trips [veh/h]	0	0	0	0	0	0	
Pass-by Trips [veh/h]	0	0	0	0	0	0	
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	
Other Volume [veh/h]	0	0	0	0	0	0	
Total Hourly Volume [veh/h]	667	40	22	622	85	37	
Peak Hour Factor	0.9600	0.9600	0.9600	0.9600	0.9600	0.9600	
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	
Total 15-Minute Volume [veh/h]	174	10	6	162	22	10	
Total Analysis Volume [veh/h]	695	42	23	648	89	39	
Pedestrian Volume [ped/h]	()	()	0		

 Duckhorn Vineyards TIS
 W-Trans

 Friday PM Existing
 1

Generated with PTV VISTRO

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	Α	A	F	E		
95th-Percentile Queue Length [veh/ln]	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	.00	0.	32	51.12			
Approach LOS		A	,	4	1	-		
d_I, Intersection Delay [s/veh]	4.40							
Intersection LOS	F							

 Duckhorn Vineyards TIS
 W-Trans

 Friday PM Existing
 2



Intersection Level Of Service Report Intersection 2: Silverado Trail/Lodi Ln

Control Type: Analysis Method: Two-way stop HCM 6th Edition Analysis Period: 15 minutes

Delay (sec / veh): Level Of Service: Volume to Capacity (v/c): 15.5 С 0.092

Intersection Setup

Name	Silvera	Silverado Trail		ido Trail	Lodi Ln		
Approach	North	Northbound		Southbound		oound	
Lane Configuration	+	+		→	T		
Turning Movement	Left	Left Thru		Right	Left	Right	
Lane Width [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 Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	
Speed [mph]	50	50.00		50.00		.00	
Grade [%]	0.	0.00		0.00		00	
Crosswalk	l l	No		No		lo	

Volumes

Name	Silvera	do Trail	Silvera	do Trail	Lod	i Ln	
Base Volume Input [veh/h]	63	299	265	50	32	46	
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	
In-Process Volume [veh/h]	0	0	0	0	0	0	
Site-Generated Trips [veh/h]	0	0	0	0	0	0	
Diverted Trips [veh/h]	0	0	0	0	0	0	
Pass-by Trips [veh/h]	0	0	0	0	0	0	
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	
Other Volume [veh/h]	0	0	0	0	0	0	
Total Hourly Volume [veh/h]	63	299	265	50	32	46	
Peak Hour Factor	0.9600	0.9600	0.9600	0.9600	0.9600	0.9600	
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	
Total 15-Minute Volume [veh/h]	16	78	69	13	8	12	
Total Analysis Volume [veh/h]	66	311	276	52	33	48	
Pedestrian Volume [ped/h]	()	()	0		

Duckhorn Vineyards TIS W-Trans Friday PM Existing 3 Generated with PTV VISTRO

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

V/C, Movement 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	Α	A	С	В	
95th-Percentile Queue Length [veh/ln]	0.17	0.17	0.00	0.00	0.30	0.30	
95th-Percentile Queue Length [ft/ln]	4.24	4.24	0.00	0.00	7.62	7.62	
d_A, Approach Delay [s/veh]	1.	42	0.	.00	12.42		
Approach LOS	,	A		A	E	3	
d_I, Intersection Delay [s/veh]	1.96						
Intersection LOS	C						

Generated with Version 7.00-06



Intersection Level Of Service Report Intersection 1: SR 29/Lodi Ln

Control Type: Two-way stop
Analysis Method: HCM 6th Edition
Analysis Period: 15 minutes

Delay (sec / veh): Level Of Service: Volume to Capacity (v/c):

39.1 E 0.297

Intersection Setup

· · · · · · · · · · · · · · · · · · ·						
Name	SR 29		SR 29		Lodi Ln	
Approach	North	bound	South	bound	Westbound	
Lane Configuration	ŀ		7		-	r
Turning Movement	Thru	Thru Right		Thru	Left	Right
Lane Width [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 Length [ft]	100.00	100.00	90.00	100.00	100.00	100.00
Speed [mph]	50	50.00		.00	40.00	
Grade [%]	0.00		0.	.00	0.00	
Crosswalk	N	lo	1	lo	No	

Volumes

Name	SR	29	SR	29	Lod	i Ln
Base Volume Input [veh/h]	686	22	27	649	39	13
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	686	22	27	649	39	13
Peak Hour Factor	0.9600	0.9600	0.9600	0.9600	0.9600	0.9600
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	179	6	7	169	10	3
Total Analysis Volume [veh/h]	715	23	28	676	41	14
Pedestrian Volume [ped/h]	()	()	0	

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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	0.30	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	Α	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	1)
d_I, Intersection Delay [s/veh]			1.	45		
Intersection LOS		E				

 Duckhorn Vineyards TIS
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Intersection Level Of Service Report Intersection 2: Silverado Trail/Lodi Ln

Control Type: Two-way stop HCM 6th Edition Analysis Method: Analysis Period: 15 minutes

Delay (sec / veh): Level Of Service: Volume to Capacity (v/c): 14.2 В 0.040

Intersection Setup

Name	Silvera	Silverado Trail		Silverado Trail		li Ln	
Approach	North	Northbound		Southbound		oound	
Lane Configuration	•	4		- -		П	r
Turning Movement	Left	Left Thru		Right	Left	Right	
Lane Width [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 Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	
Speed [mph]	50	50.00		50.00		40.00	
Grade [%]	0	0.00		.00	0.00		
Crosswalk	1	No		No		No	

Volumes

Name	Silvera	do Trail	Silverado Trail		Lod	i Ln
Base Volume Input [veh/h]	30	296	253	31	15	31
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	3.00	3.00	3.00	3.00	3.00	3.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	30	296	253	31	15	31
Peak Hour Factor	0.9100	0.9100	0.9100	0.9100	0.9100	0.9100
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	8	81	70	9	4	9
Total Analysis Volume [veh/h]	33	325	278	34	16	34
Pedestrian Volume [ped/h]	()	()	0	

Duckhorn Vineyards TIS W-Trans Saturday PM Existing 3

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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

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	Α	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/ln]	2.04	2.04	0.00	0.00	3.60	3.60	
d_A, Approach Delay [s/veh]	0.	74	0.	00	11.	35	
Approach LOS	,	A		A	E	3	
d_I, Intersection Delay [s/veh]		1.15					
Intersection LOS	В						

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Intersection Level Of Service Report Intersection 1: SR 29/Lodi Ln

Control Type: Two-way stop
Analysis Method: HCM 6th Edition
Analysis Period: 15 minutes

Delay (sec / veh): Level Of Service: Volume to Capacity (v/c):

61.8 F 0.653

Intersection Setup

Name	SF	SR 29		SR 29		li Ln
Approach	North	Northbound		Southbound		bound
Lane Configuration	1	F		ΠĪ		r
Turning Movement	Thru	Thru Right Left		Thru	Left	Right
Lane Width [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 Length [ft]	100.00	100.00	90.00	100.00	100.00	100.00
Speed [mph]	50	50.00		0.00	40.00	
Grade [%]	0.	0.00		.00	0.00	
Crosswalk	1	No		No	No	

Volumes

Name	SR 29		SR 29		Lod	i Ln
Base Volume Input [veh/h]	670	44	24	626	90	41
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	4.00	4.00	4.00	4.00	4.00	4.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	670	44	24	626	90	41
Peak Hour Factor	0.9600	0.9600	0.9600	0.9600	0.9600	0.9600
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	174	11	6	163	23	11
Total Analysis Volume [veh/h]	698	46	25	652	94	43
Pedestrian Volume [ped/h]	()	()	0	

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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	А	A	Α	A	F	E
95th-Percentile Queue Length [veh/ln]	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	
Approach LOS		A	,	A	F	-
d_I, Intersection Delay [s/veh]	5.13					
Intersection LOS	F					

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Intersection Level Of Service Report Intersection 2: Silverado Trail/Lodi Ln

Control Type: Two-way stop
Analysis Method: HCM 6th Edition
Analysis Period: 15 minutes

Delay (sec / veh): Level Of Service: Volume to Capacity (v/c):

15.6 C 0.096

Intersection Setup

Name	Silvera	Silverado Trail		Silverado Trail		li Ln	
Approach	North	Northbound		Southbound		oound	
Lane Configuration	•	4		F		r	
Turning Movement	Left	Left Thru		Right	Left	Right	
Lane Width [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 Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	
Speed [mph]	50	50.00		50.00		40.00	
Grade [%]	0	0.00		.00	0.00		
Crosswalk	1	No	No		No		

Volumes

Name	Silvera	do Trail	Silverado Trail		Lod	i Ln
Base Volume Input [veh/h]	65	299	265	51	33	49
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	65	299	265	51	33	49
Peak Hour Factor	0.9600	0.9600	0.9600	0.9600	0.9600	0.9600
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	17	78	69	13	9	13
Total Analysis Volume [veh/h]	68	311	276	53	34	51
Pedestrian Volume [ped/h]	()	()	0	

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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

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	Α	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.	1.45		0.00		.43
Approach LOS	,	A		A	В	
d_I, Intersection Delay [s/veh]	2.03					
Intersection LOS	С					

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Intersection Level Of Service Report Intersection 1: SR 29/Lodi Ln

Control Type: Two-way stop HCM 6th Edition Analysis Method: Analysis Period: 15 minutes

Delay (sec / veh): Level Of Service: Volume to Capacity (v/c):

41.6

0.354

Intersection Setup

Name	SF	SR 29		SR 29		li Ln	
Approach	North	Northbound		Southbound		bound	
Lane Configuration	1	ŀ		ΠĪ		T	
Turning Movement	Thru	Thru Right		Thru	Left	Right	
Lane Width [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 Length [ft]	100.00	100.00	90.00	100.00	100.00	100.00	
Speed [mph]	50	50.00		50.00		40.00	
Grade [%]	0.	0.00		.00	0.00		
Crosswalk	1	No		No		No	

Volumes

Name	SR	29	SR	29	Lod	i Ln
Base Volume Input [veh/h]	672	32	33	654	46	18
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	672	32	33	654	46	18
Peak Hour Factor	0.9600	0.9600	0.9600	0.9600	0.9600	0.9600
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	175	8	9	170	12	5
Total Analysis Volume [veh/h]	700	33	34	681	48	19
Pedestrian Volume [ped/h]	0		0		0	

Duckhorn Vineyards TIS W-Trans Saturday PM Baseline

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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/ln]	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	
d_I, Intersection Delay [s/veh]			1.3	82		
Intersection LOS			E	=		

Duckhorn Vineyards TIS W-Trans Saturday PM Baseline

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Intersection Level Of Service Report Intersection 2: Silverado Trail/Lodi Ln

Control Type: Two-way stop HCM 6th Edition Analysis Method: Analysis Period: 15 minutes

Delay (sec / veh): Level Of Service: Volume to Capacity (v/c): 14.4 0.046

Intersection Setup

Name	Silvera	Silverado Trail		Silverado Trail		li Ln	
Approach	North	Northbound		Southbound		oound	
Lane Configuration	+	4		H		r	
Turning Movement	Left	Left Thru		Right	Left	Right	
Lane Width [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 Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	
Speed [mph]	50	50.00		50.00		40.00	
Grade [%]	0.	0.00		.00	0.00		
Crosswalk	l l	No		lo	No		

Volumes

Name	Silvera	do Trail	Silverado Trail		Lod	i Ln
Base Volume Input [veh/h]	35	296	253	33	16	35
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	3.00	3.00	3.00	3.00	3.00	3.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	35	296	253	33	16	35
Peak Hour Factor	0.9100	0.9100	0.9100	0.9100	0.9100	0.9100
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	10	81	70	9	4	10
Total Analysis Volume [veh/h]	38	325	278	36	18	38
Pedestrian Volume [ped/h]	()	()	0	

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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

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	Α	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		Α		A	В		
d_I, Intersection Delay [s/veh]	1.29						
Intersection LOS	В						



Intersection Level Of Service Report Intersection 1: SR 29/Lodi Ln

Control Type: Analysis Method: Two-way stop HCM 6th Edition Analysis Period: 15 minutes

Delay (sec / veh): Level Of Service: Volume to Capacity (v/c):

374.3 1.400

Intersection Setup

Name	SF	SR 29		SR 29		li Ln	
Approach	North	Northbound		Southbound		bound	
Lane Configuration	i i		П	r			
Turning Movement	Thru	Thru Right Left Thru		Left	Right		
Lane Width [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 Length [ft]	100.00	100.00	90.00	100.00	100.00	100.00	
Speed [mph]	50	50.00		50.00		40.00	
Grade [%]	0.	0.00		.00	0.00		
Crosswalk	1	10	1	No	١	lo	

Volumes

Name	SR	29	SR	29	Lod	i Ln
Base Volume Input [veh/h]	667	40	22	622	85	37
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	4.00	4.00	4.00	4.00	4.00	4.00
Growth Factor	1.4600	1.1050	1.1050	1.4600	1.1050	1.1050
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	974	44	24	908	94	41
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	244	11	6	227	24	10
Total Analysis Volume [veh/h]	974	44	24	908	94	41
Pedestrian Volume [ped/h]	()	()	0	

Duckhorn Vineyards TIS W-Trans Friday PM Future

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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	.00	0.	27	361	.78	
Approach LOS		A A				F	
d_I, Intersection Delay [s/veh]			23	.55			
Intersection LOS		F					

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Intersection Level Of Service Report Intersection 2: Silverado Trail/Lodi Ln

Control Type: Analysis Method: Two-way stop HCM 6th Edition Analysis Period: 15 minutes

Delay (sec / veh): Level Of Service: Volume to Capacity (v/c): 19.2 С 0.130

Intersection Setup

Name	Silvera	Silverado Trail		Silverado Trail		li Ln		
Approach	North	Northbound		Southbound		oound		
Lane Configuration	+		H H		F		П	r
Turning Movement	Left	Left Thru Thru Right		Left	Right			
Lane Width [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 Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00		
Speed [mph]	50	50.00		50.00		40.00		
Grade [%]	0	0.00		.00	0.00			
Crosswalk	1	No	1	No	No			

Volumes

Name	Silvera	do Trail	Silvera	do Trail	Lod	i Ln
Base Volume Input [veh/h]	63	299	265	50	32	46
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.1050	1.3700	1.3700	1.1050	1.1050	1.1050
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	70	410	363	55	35	51
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	18	103	91	14	9	13
Total Analysis Volume [veh/h]	70	410	363	55	35	51
Pedestrian Volume [ped/h]	()	()	0	

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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

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	Α	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
Approach LOS		A A			1	3
d_I, Intersection Delay [s/veh]			1.	86	•	
Intersection LOS		С				



Intersection Level Of Service Report Intersection 1: SR 29/Lodi Ln

Control Type: Two-way stop HCM 6th Edition Analysis Method: Analysis Period: 15 minutes

Delay (sec / veh): Level Of Service: Volume to Capacity (v/c):

138.3 0.706

Intersection Setup

Name	SF	SR 29		SR 29		li Ln	
Approach	North	Northbound		Southbound		bound	
Lane Configuration	i i		П	r			
Turning Movement	Thru	Thru Right Left Thru		Left	Right		
Lane Width [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 Length [ft]	100.00	100.00	90.00	100.00	100.00	100.00	
Speed [mph]	50	50.00		50.00		40.00	
Grade [%]	0.	0.00		.00	0.00		
Crosswalk	1	10	1	No	١	lo	

Volumes

Name	SR	29	SR	29	Lod	Ln
Base Volume Input [veh/h]	686	22	27	649	39	13
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.4600	1.1050	1.1050	1.4600	1.1050	1.1050
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	1002	24	30	948	43	14
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	251	6	8	237	11	4
Total Analysis Volume [veh/h]	1002	24	30	948	43	14
Pedestrian Volume [ped/h]	()	()	0	

Duckhorn Vineyards TIS W-Trans Saturday PM Future

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Intersection Settings			
Priority Scheme	Free	Free	Stop
Flared Lane			Yes
Storage Area [veh]	0	0	2
Two-Stage Gap Acceptance			No

Movement, Approach, & Intersection Results

Number of Storage Spaces in Median

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/ln]	0.00	0.00	0.14	0.00	3.45	3.45
95th-Percentile Queue Length [ft/ln]	0.00	0.00	3.47	0.00	86.23	86.23
d_A, Approach Delay [s/veh]	0	.00	0.	32	126	3.86
Approach LOS		A A			F	=
d_I, Intersection Delay [s/veh]			3.	66		
Intersection LOS		F				

Duckhorn Vineyards TIS W-Trans Saturday PM Future

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Intersection Level Of Service Report Intersection 2: Silverado Trail/Lodi Ln

Control Type: Two-way stop
Analysis Method: HCM 6th Edition
Analysis Period: 15 minutes

Delay (sec / veh): 16.3
Level Of Service: C
Volume to Capacity (v/c): 0.053

Intersection Setup

Name	Silvera	Silverado Trail		Silverado Trail		li Ln
Approach	North	Northbound		Southbound		oound
Lane Configuration	+	4		F		r
Turning Movement	Left	Left Thru Thru		Right	Left	Right
Lane Width [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 Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	50	.00	50.00		40.00	
Grade [%]	0.	0.00		.00	0.00	
Crosswalk	l l	No		lo	No	

Volumes

Name	Silvera	do Trail	Silverado Trail		Lod	i Ln
Base Volume Input [veh/h]	30	296	253	31	15	31
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	3.00	3.00	3.00	3.00	3.00	3.00
Growth Factor	1.1050	1.3700	1.3700	1.1050	1.1050	1.1050
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	33	406	347	34	17	34
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	8	102	87	9	4	9
Total Analysis Volume [veh/h]	33	406	347	34	17	34
Pedestrian Volume [ped/h]	0		()	0	

 Duckhorn Vineyards TIS
 W-Trans

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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

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	Α	A	С	В	
95th-Percentile Queue Length [veh/ln]	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		Α		A	Е	3	
d_I, Intersection Delay [s/veh]		1.04					
Intersection LOS	С						



Intersection Level Of Service Report Intersection 1: SR 29/Lodi Ln

Control Type: Two-way stop HCM 6th Edition Analysis Method: Analysis Period: 15 minutes

Delay (sec / veh): Level Of Service: Volume to Capacity (v/c):

57.3 0.614

Intersection Setup

intersection detap							
Name	SF	SR 29		SR 29		Lodi Ln	
Approach	North	Northbound		nbound	Westbound		
Lane Configuration	1	h 11		-	Γ		
Turning Movement	Thru	Right	Left Thru		Left	Right	
Lane Width [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 Length [ft]	100.00	100.00	90.00	100.00	100.00	100.00	
Speed [mph]	50	50.00		0.00	40.00		
Grade [%]	0.	0.00		.00	0.00		
Crosswalk	1	No		No		No	

Volumes

Name	SR	29	SR 29		Lod	i Ln
Base Volume Input [veh/h]	667	40	22	622	85	37
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	4.00	4.00	4.00	4.00	4.00	4.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	3	3	0	0	2
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	667	43	25	622	85	39
Peak Hour Factor	0.9600	0.9600	0.9600	0.9600	0.9600	0.9600
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	174	11	7	162	22	10
Total Analysis Volume [veh/h]	695	45	26	648	89	41
Pedestrian Volume [ped/h]	()	0		0	

Duckhorn Vineyards TIS W-Trans Friday PM Existing + Project

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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/ln]	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	0.0	36	52	14
Approach LOS	,	A	A	١.	F	
d_I, Intersection Delay [s/veh]	4.55					
Intersection LOS	F					

Duckhorn Vineyards TIS W-Trans Friday PM Existing + Project



Intersection Level Of Service Report Intersection 2: Silverado Trail/Lodi Ln

Control Type: Two-way stop HCM 6th Edition Analysis Method: Analysis Period: 15 minutes

Delay (sec / veh): Level Of Service: Volume to Capacity (v/c): 15.6 С 0.094

Intersection Setup

Name	Silvera	Silverado Trail		Silverado Trail		li Ln
Approach	North	Northbound		Southbound		oound
Lane Configuration	+	4		F		r
Turning Movement	Left	Left Thru Thru		Right	Left	Right
Lane Width [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 Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	50	.00	50.00		40.00	
Grade [%]	0.	0.00		.00	0.00	
Crosswalk	l l	No		lo	No	

Volumes

Name	Silverado Trail		Silverado Trail		Lod	i Ln
Base Volume Input [veh/h]	63	299	265	50	32	46
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	3	0	0	1	0	5
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	66	299	265	51	32	51
Peak Hour Factor	0.9600	0.9600	0.9600	0.9600	0.9600	0.9600
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	17	78	69	13	8	13
Total Analysis Volume [veh/h]	69	311	276	53	33	53
Pedestrian Volume [ped/h]	()	()	0	

Duckhorn Vineyards TIS W-Trans Friday PM Existing + Project 3 Generated with PTV VISTRO

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

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/ln]	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	E	3
d_l, Intersection Delay [s/veh]	2.04					
Intersection LOS	С					



Intersection Level Of Service Report Intersection 1: SR 29/Lodi Ln

Control Type: Two-way stop HCM 6th Edition Analysis Method: Analysis Period: 15 minutes

Delay (sec / veh): Level Of Service: Volume to Capacity (v/c): 39.1 0.299

Intersection Setup

Name	SF	SR 29		SR 29		li Ln	
Approach	North	Northbound		Southbound		bound	
Lane Configuration	1	F		πİ		r	
Turning Movement	Thru	Thru Right L		Thru	Left	Right	
Lane Width [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 Length [ft]	100.00	100.00	90.00	100.00	100.00	100.00	
Speed [mph]	50	50.00		50.00		40.00	
Grade [%]	0.	0.00		.00	0.00		
Crosswalk	1	No		No	No		

Volumes

Name	SR	29	SR	29	Lod	i Ln
Base Volume Input [veh/h]	686	22	27	649	39	13
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	1	1	0	0	2
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	686	23	28	649	39	15
Peak Hour Factor	0.9600	0.9600	0.9600	0.9600	0.9600	0.9600
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	179	6	7	169	10	4
Total Analysis Volume [veh/h]	715	24	29	676	41	16
Pedestrian Volume [ped/h]	()	()	0	

Duckhorn Vineyards TIS W-Trans Saturday PM Existing + Project

Generated with PTV VISTRO

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

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	Α	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/ln]	0.00	0.00	2.59	0.00	29.83	29.83
d_A, Approach Delay [s/veh]	0	0.00		38	34	.10
Approach LOS		A	,	Α	D	
d_I, Intersection Delay [s/veh]	1.47					
Intersection LOS	E					

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Intersection Level Of Service Report Intersection 2: Silverado Trail/Lodi Ln

Control Type: Two-way stop HCM 6th Edition Analysis Method: Analysis Period: 15 minutes

Delay (sec / veh): Level Of Service: Volume to Capacity (v/c): 14.3 0.040

Intersection Setup

Name	Silvera	Silverado Trail		Silverado Trail		li Ln	
Approach	North	Northbound		bound	Eastbound		
Lane Configuration	+	+		F		r	
Turning Movement	Left	Left Thru		Right	Left	Right	
Lane Width [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 Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	
Speed [mph]	50	50.00		50.00		40.00	
Grade [%]	0.	0.00		.00	0.00		
Crosswalk	l l	No		lo	No		

Volumes

Name	Silvera	do Trail	Silvera	do Trail	Lod	i Ln
Base Volume Input [veh/h]	30	296	253	31	15	31
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	3.00	3.00	3.00	3.00	3.00	3.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	2	0	0	1	0	4
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	32	296	253	32	15	35
Peak Hour Factor	0.9100	0.9100	0.9100	0.9100	0.9100	0.9100
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	9	81	70	9	4	10
Total Analysis Volume [veh/h]	35	325	278	35	16	38
Pedestrian Volume [ped/h]	0		()	0	

Duckhorn Vineyards TIS W-Trans Saturday PM Existing + Project 3 Generated with PTV VISTRO

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

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
Approach LOS	,	A		A	E	3
d_I, Intersection Delay [s/veh]			1	.22		
Intersection LOS				В		



Intersection Level Of Service Report Intersection 1: SR 29/Lodi Ln

Control Type: Analysis Method: Two-way stop HCM 6th Edition Analysis Period: 15 minutes

Delay (sec / veh): Level Of Service: Volume to Capacity (v/c):

63.4

0.663

Intersection Setup

Name	SF	SR 29		SR 29		li Ln	
Approach	North	Northbound		Southbound		bound	
Lane Configuration	1	F		ΠĪ		r	
Turning Movement	Thru	Thru Right Lef		Thru	Left	Right	
Lane Width [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 Length [ft]	100.00	100.00	90.00	100.00	100.00	100.00	
Speed [mph]	50	50.00		50.00		40.00	
Grade [%]	0.	0.00		0.00		0.00	
Crosswalk	1	No		No		lo	

Volumes

Name	SR	29	SR	29	Lod	i Ln
Base Volume Input [veh/h]	670	44	24	626	90	41
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	4.00	4.00	4.00	4.00	4.00	4.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	3	3	0	0	2
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	670	47	27	626	90	43
Peak Hour Factor	0.9600	0.9600	0.9600	0.9600	0.9600	0.9600
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	174	12	7	163	23	11
Total Analysis Volume [veh/h]	698	49	28	652	94	45
Pedestrian Volume [ped/h]	()	()	()

Duckhorn Vineyards TIS W-Trans Friday PM Baseline + Project

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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	0.66	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	Α	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/ln]	0.00	0.00	2.54	0.00	108.72	108.72
d_A, Approach Delay [s/veh]	0.	.00	0.39		57	.92
Approach LOS		A	,	Α	F	
d_I, Intersection Delay [s/veh]	5.31					
Intersection LOS	F					

Duckhorn Vineyards TIS W-Trans

Friday PM Baseline + Project

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Intersection Level Of Service Report Intersection 2: Silverado Trail/Lodi Ln

Control Type: Two-way stop
Analysis Method: HCM 6th Edition
Analysis Period: 15 minutes

| Delay (sec / veh): 15.7 | Level Of Service: C | Volume to Capacity (v/c): 0.097

Intersection Setup

Name	Silvera	Silverado Trail		Silverado Trail		li Ln
Approach	North	Northbound		Southbound		oound
Lane Configuration	+	+		F		r
Turning Movement	Left	Left Thru T		Right	Left	Right
Lane Width [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 Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	50	.00	50.00		40.00	
Grade [%]	0.	0.00		.00	0.00	
Crosswalk	l l	No		lo	No	

Volumes

Name	Silvera	do Trail	Silverado Trail		Lod	i Ln
Base Volume Input [veh/h]	65	299	265	51	33	49
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	3	0	0	1	0	5
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	68	299	265	52	33	54
Peak Hour Factor	0.9600	0.9600	0.9600	0.9600	0.9600	0.9600
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	18	78	69	14	9	14
Total Analysis Volume [veh/h]	71	311	276	54	34	56
Pedestrian Volume [ped/h]	()	()	0	

 Duckhorn Vineyards TIS
 W-Trans

 Friday PM Baseline + Project
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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	Α	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]	4.59	4.59	0.00	0.00	8.05	8.05	
d_A, Approach Delay [s/veh]	1.	1.51		0.00		.35	
Approach LOS	,	A		A	В		
d_I, Intersection Delay [s/veh]		2.10					
Intersection LOS	С						

Friday PM Baseline + Project



Intersection Level Of Service Report Intersection 1: SR 29/Lodi Ln

Control Type: Two-way stop HCM 6th Edition Analysis Method: Analysis Period: 15 minutes

Delay (sec / veh): Level Of Service: Volume to Capacity (v/c):

41.6 0.356

Intersection Setup

Name	SF	SR 29		SR 29		li Ln	
Approach	North	Northbound		Southbound		bound	
Lane Configuration	1	F		ηİ		T	
Turning Movement	Thru	Thru Right Lef		Thru	Left	Right	
Lane Width [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 Length [ft]	100.00	100.00	90.00	100.00	100.00	100.00	
Speed [mph]	50	.00	50.00		40.00		
Grade [%]	0.	0.00		.00	0.00		
Crosswalk	1	No		No	No		

Volumes

Name	SR	29	SR	29	Lod	i Ln
Base Volume Input [veh/h]	672	32	33	654	46	18
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	1	1	0	0	2
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	672	33	34	654	46	20
Peak Hour Factor	0.9600	0.9600	0.9600	0.9600	0.9600	0.9600
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	175	9	9	170	12	5
Total Analysis Volume [veh/h]	700	34	35	681	48	21
Pedestrian Volume [ped/h]	()	()	0	

Duckhorn Vineyards TIS W-Trans Saturday PM Baseline + Project

Generated with PTV VISTRO

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

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	١.	E	
d_I, Intersection Delay [s/veh]	1.85					
Intersection LOS	E					



Intersection Level Of Service Report Intersection 2: Silverado Trail/Lodi Ln

Control Type: Two-way stop HCM 6th Edition Analysis Method: Analysis Period: 15 minutes

Delay (sec / veh): Level Of Service: Volume to Capacity (v/c): 14.5

0.047

Intersection Setup

Name	Silvera	Silverado Trail		Silverado Trail		li Ln	
Approach	North	Northbound		Southbound		oound	
Lane Configuration	•	+		F		₩ ₩	
Turning Movement	Left	Left Thru		Right	Left	Right	
Lane Width [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 Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	
Speed [mph]	50	0.00	50.00		40.00		
Grade [%]	0	0.00		.00	0.00		
Crosswalk	1	No		No		No	

Volumes

Name	Silvera	do Trail	Silverado Trail		Lod	i Ln
Base Volume Input [veh/h]	35	296	253	33	16	35
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	3.00	3.00	3.00	3.00	3.00	3.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	2	0	0	1	0	4
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	37	296	253	34	16	39
Peak Hour Factor	0.9100	0.9100	0.9100	0.9100	0.9100	0.9100
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	10	81	70	9	4	11
Total Analysis Volume [veh/h]	41	325	278	37	18	43
Pedestrian Volume [ped/h]	0		()	0	

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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

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	Α	A	Α	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/ln]	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	Е	3
d_l, Intersection Delay [s/veh]	1.38					
Intersection LOS	В					



Intersection Level Of Service Report Intersection 1: SR 29/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):

386.4 1.422

Intersection Setup

Name	SF	SR 29		SR 29		li Ln
Approach	North	Northbound		Southbound		bound
Lane Configuration	1	F		ηİ		r
Turning Movement	Thru	Thru Right Left		Thru	Left	Right
Lane Width [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 Length [ft]	100.00	100.00	90.00	100.00	100.00	100.00
Speed [mph]	50	50.00		0.00	40.00	
Grade [%]	0	0.00		.00	0.00	
Crosswalk	1	No		No	No	

Volumes

Name	SR	29	SR	29	Lod	i Ln
Base Volume Input [veh/h]	667	40	22	622	85	37
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	4.00	4.00	4.00	4.00	4.00	4.00
Growth Factor	1.4600	1.1050	1.1050	1.4600	1.1050	1.1050
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	3	3	0	0	2
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	974	47	27	908	94	43
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	244	12	7	227	24	11
Total Analysis Volume [veh/h]	974	47	27	908	94	43
Pedestrian Volume [ped/h]	()	()	0	

Duckhorn Vineyards TIS W-Trans Friday PM Future + Project

Generated with PTV VISTRO

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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	Α	A	В	A	F	F
95th-Percentile Queue Length [veh/ln]	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	.19
Approach LOS		A	,	A	F	
d_I, Intersection Delay [s/veh]	24.56					
Intersection LOS	F					

Duckhorn Vineyards TIS W-Trans Friday PM Future + Project



Intersection Level Of Service Report Intersection 2: Silverado Trail/Lodi Ln

Control Type: Two-way stop HCM 6th Edition Analysis Method: Analysis Period: 15 minutes

Delay (sec / veh): Level Of Service: Volume to Capacity (v/c): 19.3 С 0.132

Intersection Setup

Name	Silvera	Silverado Trail		Silverado Trail		li Ln	
Approach	North	Northbound		Southbound		oound	
Lane Configuration	•	4		F		r	
Turning Movement	Left	Left Thru		Right	Left	Right	
Lane Width [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 Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	
Speed [mph]	50	50.00		50.00		40.00	
Grade [%]	0	0.00		.00	0.00		
Crosswalk	1	No		lo	No		

Volumes

Name	Silverado Trail		Silverado Trail		Lod	i Ln
Base Volume Input [veh/h]	63	299	265	50	32	46
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.1050	1.3700	1.3700	1.1050	1.1050	1.1050
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	3	0	0	1	0	5
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	73	410	363	56	35	56
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	18	103	91	14	9	14
Total Analysis Volume [veh/h]	73	410	363	56	35	56
Pedestrian Volume [ped/h]	()	()	0	

Duckhorn Vineyards TIS W-Trans Friday PM Future + Project 3

Generated with PTV VISTRO

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

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	Α	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]	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	С						



Intersection Level Of Service Report Intersection 1: SR 29/Lodi Ln

Control Type: Two-way stop HCM 6th Edition Analysis Method: Analysis Period: 15 minutes

Delay (sec / veh): Level Of Service: Volume to Capacity (v/c):

138.4 0.710

Intersection Setup

Name	SF	SR 29		SR 29		di Ln	
Approach	North	Northbound		Southbound		bound	
Lane Configuration	1	F		ηİ		r	
Turning Movement	Thru	Thru Right Left		Thru	Left	Right	
Lane Width [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 Length [ft]	100.00	100.00	90.00	100.00	100.00	100.00	
Speed [mph]	50	50.00		50.00		40.00	
Grade [%]	0	0.00		.00	0.00		
Crosswalk	1	No		No	No		

Volumes

Name	SR	29	SR	29	Lod	i Ln
Base Volume Input [veh/h]	686	22	27	649	39	13
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.4600	1.1050	1.1050	1.4600	1.1050	1.1050
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	1	1	0	0	2
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	1002	25	31	948	43	16
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	251	6	8	237	11	4
Total Analysis Volume [veh/h]	1002	25	31	948	43	16
Pedestrian Volume [ped/h]	()	()	0	

Duckhorn Vineyards TIS W-Trans Saturday PM Future + Project

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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

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	Α	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					



Intersection Level Of Service Report Intersection 2: Silverado Trail/Lodi Ln

Control Type: Two-way stop HCM 6th Edition Analysis Method: Analysis Period: 15 minutes

Delay (sec / veh): Level Of Service: Volume to Capacity (v/c): 16.4 С 0.053

Intersection Setup

Name	Silvera	Silverado Trail		Silverado Trail		li Ln	
Approach	North	Northbound		Southbound		oound	
Lane Configuration	•	4		ŀ		r	
Turning Movement	Left	Left Thru Thru		Right	Left	Right	
Lane Width [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 Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	
Speed [mph]	50	50.00		50.00		40.00	
Grade [%]	0	0.00		.00	0.00		
Crosswalk	1	No	1	No	No		

Volumes

Name	Silvera	do Trail	Silvera	do Trail	Lod	i Ln
Base Volume Input [veh/h]	30	296	253	31	15	31
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	3.00	3.00	3.00	3.00	3.00	3.00
Growth Factor	1.1050	1.3700	1.3700	1.1050	1.1050	1.1050
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	2	0	0	1	0	4
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	35	406	347	35	17	38
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	9	102	87	9	4	10
Total Analysis Volume [veh/h]	35	406	347	35	17	38
Pedestrian Volume [ped/h]	()	()	0	

Duckhorn Vineyards TIS W-Trans Saturday PM Future + Project 3

Generated with PTV VISTRO

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

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	Α	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	4	A		A	Е	В	
d_l, Intersection Delay [s/veh]			1.	10			
Intersection LOS		С					

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Intersection Level Of Service Report Intersection 1: SR 29/Lodi Ln

Control Type: Two-way stop
Analysis Method: HCM 6th Edition
Analysis Period: 15 minutes

Delay (sec / veh): Level Of Service: Volume to Capacity (v/c):

363.8 F 1.422

Intersection Setup

Name	SR 29		SR 29		Lodi Ln	
Approach	Northbound		South	nbound	Westbound	
Lane Configuration	ŀ		ΠĪ		٦	Γ
Turning Movement	Thru	Thru Right		Thru	Left	Right
Lane Width [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 Length [ft]	100.00	100.00	90.00	100.00	100.00	100.00
Speed [mph]	50	50.00		0.00	40.00	
Grade [%]	0.00		0	.00	0.	.00
Crosswalk	N	lo	1	No	No	

Volumes

Name	SR	29	SR	29	Lod	i Ln
Base Volume Input [veh/h]	667	40	22	622	85	37
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	4.00	4.00	4.00	4.00	4.00	4.00
Growth Factor	1.4600	1.1050	1.1050	1.4600	1.1050	1.1050
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	3	3	0	0	2
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	974	47	27	908	94	43
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	244	12	7	227	24	11
Total Analysis Volume [veh/h]	974	47	27	908	94	43
Pedestrian Volume [ped/h]	()	()	()

 Duckhorn Vineyards TIS
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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	0.04	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	255.71		
Approach LOS		A A				F	
d_I, Intersection Delay [s/veh]			16	.87			
Intersection LOS		F					

 Duckhorn Vineyards TIS
 W-Trans

 Friday PM Future + Project (Mit)
 2



Intersection Level Of Service Report Intersection 1: SR 29/Lodi Ln

Control Type: Two-way stop HCM 6th Edition Analysis Method: Analysis Period: 15 minutes

Delay (sec / veh): Level Of Service: Volume to Capacity (v/c):

151.6 0.710

Intersection Setup

Name	SF	SR 29		SR 29		Lodi Ln	
Approach	North	Northbound		nbound	Westbound		
Lane Configuration	1	ŀ		ηİ		۲	
Turning Movement	Thru	Thru Right		Thru	Left	Right	
Lane Width [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 Length [ft]	100.00	100.00	90.00	100.00	100.00	100.00	
Speed [mph]	50	50.00		50.00		.00	
Grade [%]	0.	0.00		.00	0.00		
Crosswalk	1	10	1	No	No		

Volumes

Name	SR	29	SR	29	Lod	i Ln
Base Volume Input [veh/h]	686	22	27	649	39	13
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.4600	1.1050	1.1050	1.4600	1.1050	1.1050
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	1	1	0	0	2
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	1002	25	31	948	43	16
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	251	6	8	237	11	4
Total Analysis Volume [veh/h]	1002	25	31	948	43	16
Pedestrian Volume [ped/h]	()	()	0	

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

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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

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/ln]	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				

Appendix D

Roadway Segment Level of Service Calculations





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HCS7 Two-Lane Highway Report										
Project Information										
Analyst	KT	КТ			12/4/20					
Agency	W-Trans	W-Trans			2020					
Jurisdiction County of Napa			Time Period Analyzed		Friday PM Existing					
Project Description	SR 29 – North of Lo (NB) – Friday PM	SR 29 – North of Lodi Lane (NB) – Friday PM			United States Customary					
Segment 1										
Vehicle Inputs										
Segment Type	ype Passing Constrained		Length, ft		5280					
Lane Width, ft	12	12		t	6					
Speed Limit, mi/h	50	50		sity, pts/mi	4.0					
Demand and Capacity										
Directional Demand Flow Rate, veh/h 733		Opposing Demand Flow Rate, veh/h		-						
Peak Hour Factor	0.96		Total Trucks, %		4.00					
Segment Capacity, veh/h	ment Capacity, veh/h 1700		Demand/Capacity (D/C)		0.43					
Intermediate Results										
Segment Vertical Class	1	1		mi/h	55.9					
Speed Slope Coefficient	3.58815	3.58815		fficient	0.41674					
PF Slope Coefficient	-1.32983	-1.32983		ent	0.75000					
In Passing Lane Effective Length?	No	No		nsity, veh/mi/ln	9.0					
%Improved % Followers	0.0	0.0		Speed	0.0					
Subsegment Data										
# Segment Type	Segment Type Length, ft Rac		dius, ft	Superelevation, %	Average Speed, mi/h					
1 Tangent	Tangent 5280 -			-	52.9					
Vehicle Results										
Average Speed, mi/h 52.9		Percent Follo		, %	65.1					
Segment Travel Time, minutes	1.13	1.13		, followers/mi/ln	9.0					
Vehicle LOS	С	С								
Vehicle LOS	-	CERO T I	Vanian 70		C					

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

		HCS7 Two-Lai	ne Highway R	eport				
•		11037 1100 201	ite i ligilway it	ероге				
Project Information								
Analyst		KT	Date		12/4/2020			
Agency		W-Trans	Analysis Year		2020			
Jurisdiction		County of Napa	Time Period Anal	/zed	Friday PM Existing			
Project Description		SR 29 – North of Lodi La (SB) – Friday PM	ane Unit		United States Customary			
		Se	gment 1					
Ve	hicle Inputs							
Seg	Segment Type Passing Constrained		Length, ft		5280			
Lan	ane Width, ft 12		Shoulder Width, f	t	6			
Spe	ed Limit, mi/h	50	Access Point Den	sity, pts/mi	10.0			
De	mand and Capacity							
Directional Demand Flow Rate, veh/h 671		671	Opposing Demar	d Flow Rate, veh/h	-			
Peal	Peak Hour Factor 0.96		Total Trucks, %		4.00			
Seg	iegment Capacity, veh/h 1700		Demand/Capacity	/ (D/C)	0.39			
Int	ermediate Results							
Segment Vertical Class		1	Free-Flow Speed,	mi/h	54.4			
Speed Slope Coefficient		3.50685	Speed Power Coe	fficient	0.41674			
PF Slope Coefficient		-1.34047	PF Power Coeffici	ent	0.74585			
In Passing Lane Effective Length?		No	Total Segment De	ensity, veh/mi/ln	8.2			
%Improved % Followers		0.0	% Improved Avg	Speed	0.0			
Su	bsegment Data							
#	Segment Type	Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h			
1	Tangent	5280	-	-	51.6			
Ve	hicle Results				·			
Average Speed, mi/h 51.6		51.6	Percent Followers	, %	63.0			
Segment Travel Time, minutes 1.16		1.16	Followers Density	, followers/mi/ln	8.2			
Veh	icle LOS	С						
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1_SR 29 - North of Lodi Lane (Southbound) - Friday PM.xuf

	eport	Highway Re	-Lane	HCS7 Two-La		
					oject Information	Project
12/4/2020		Date		KT	llyst	Analyst
2020		Analysis Year		W-Trans	ency	Agency
Friday PM Existing	zed	Time Period Analy		County of Napa	sdiction	Jurisdictio
United States Customary		Unit	odi Lane	SR 29 – South of Lodi I (NB) – Friday PM	ject Description	Project De
		nent 1	Segn	Se		
					hicle Inputs	Vehicle
5280		Length, ft	ed	Passing Constrained	ment Type	Segment 1
6	t	Shoulder Width, f		12	e Width, ft	Lane Widt
4.0	ity, pts/mi	Access Point Dens		50	ed Limit, mi/h	Speed Lim
					mand and Capacity	Deman
-	d Flow Rate, veh/h	Opposing Deman		736	ectional Demand Flow Rate, veh/h	Directiona
4.00	Total Trucks, %			0.96	k Hour Factor	Peak Hour
0.43	Demand/Capacity (D/C)			1700	ment Capacity, veh/h	Segment (
					ermediate Results	Interme
55.9	mi/h	Free-Flow Speed,		1	ment Vertical Class	Segment \
0.41674	Speed Power Coefficient			3.58815	ed Slope Coefficient	Speed Slo
0.75000	PF Power Coefficient			-1.32983	Slope Coefficient	PF Slope C
9.1	Total Segment Density, veh/mi/ln			No	assing Lane Effective Length?	In Passing
0.0	% Improved Avg Speed			0.0	nproved % Followers	%Improve
					bsegment Data	Subseg
Average Speed, mi/h	Superelevation, %	ius, ft	Rac	Length, ft	Segment Type	# Segi
52.9	-		-	5280	Tangent	1 Tang
					hicle Results	Vehicle
65.3	%	Percent Followers,		52.9	rage Speed, mi/h	Average S
9.1	followers/mi/ln	Followers Density,		1.13	ment Travel Time, minutes	Segment 1
				С	icle LOS	Vehicle LO
52.9	%	Percent Followers,	-	52.9 1.13	Tangent hicle Results rage Speed, mi/h ment Travel Time, minutes	1 Tang Vehicle Average S Segment 1 Vehicle LO

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		HCS7 Two-La	ine	Highway Re	eport	
Pro	oject Information					
Ana	lyst	KT		Date		12/4/2020
Age	ency	W-Trans		Analysis Year		2020
Juris	sdiction	County of Napa		Time Period Analy	zed	Friday PM Existing
Proj	ect Description	SR 29 – South of Lodi L (SB) – Friday PM	Lane	Unit		United States Customary
		Se	egn	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		Access Point Dens	ity, pts/mi	10.0
De	mand and Capacity					
Dire	ectional Demand Flow Rate, veh/h	736	736		d Flow Rate, veh/h	-
Peal	k Hour Factor	0.96		Total Trucks, %		4.00
Seg	ment Capacity, veh/h	1700	1700		(D/C)	0.43
Int	ermediate Results					
Seg	ment Vertical Class	1		Free-Flow Speed,	mi/h	54.4
Spe	ed Slope Coefficient	3.50685		Speed Power Coefficient		0.41674
PF S	Slope Coefficient	-1.34047		PF Power Coefficient		0.74585
In P	assing Lane Effective Length?	No		Total Segment Density, veh/mi/ln		9.4
%lm	nproved % 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
Vel	hicle Results				'	
Ave	rage Speed, mi/h	51.5		Percent Followers	, %	65.6
Seg	ment Travel Time, minutes	1.17		Followers Density	followers/mi/ln	9.4
Veh	icle LOS	С				
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2_SR 29 - South of Lodi Lane (Southbound) - Weekday PM.xuf

		HCS7 Two-La	ne	Highway Re	eport	
Pro	ject Information					
Anal	yst	KT		Date		12/4/2020
Ager	ncy	W-Trans		Analysis Year		2020
Juris	diction	County of Napa		Time Period Analy	zed	Friday PM Existing
Proje	ect Description	Lodi Ln – West of Project Driveway (EB) – Friday F		Unit		United States Customary
		Se	gm	nent 1		
Vel	nicle Inputs					
Segr	ment Type	Passing Constrained		Length, ft		5280
Lane	Width, ft	14		Shoulder Width, f	t	0
Spee	ed Limit, mi/h	45		Access Point Dens	ity, pts/mi	11.0
Dei	mand and Capacity					
Dire	ctional Demand Flow Rate, veh/h	65		Opposing Deman	d Flow Rate, veh/h	-
Peak	Hour Factor	0.96		Total Trucks, %		4.00
Segr	ment Capacity, veh/h	1700		Demand/Capacity (D/C)		0.04
Inte	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 Density, veh/mi/ln		0.3
%lm	proved % Followers	0.0		% Improved Avg S	Speed	0.0
Suk	segment Data					
#	Segment Type	Length, ft	Radi	adius, ft Superelevation, %		Average Speed, mi/h
1	Tangent	5280	-		-	45.4
Vel	nicle Results					
Aver	age Speed, mi/h	45.4		Percent Followers	. %	17.6
	ment Travel Time, minutes	1.32		Followers Density, followers/mi/ln		0.3
Vehi	cle LOS	A				
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Generated: 12/04/2020 13:08:03 HCSTM Two-Lane Version 7.8 3_Lodi Ln - West of Project Driveway (Eastbound) - Weekday PM.xuf

	HCS7 Two	o-Lane	Highway R	eport		
Project Information			<i>3</i> · <i>y</i>			
Analyst	KT		Date		12/4/2020	
Agency	W-Trans		Analysis Year		2020	
Jurisdiction	County of Napa		Time Period Anal	yzed	Friday PM Existing	
Project Description	Lodi Ln – West of Driveway (WB) –		Unit		United States Customary	
		Segn	nent 1			
Vehicle Inputs						
Segment Type	Passing Constrair	ned	Length, ft		5280	
Lane Width, ft	14		Shoulder Width,	ft	0	
Speed Limit, mi/h	45		Access Point Den	sity, pts/mi	10.0	
Demand and Capacity						
Directional Demand Flow Rate, veh/h	127	127		nd Flow Rate, veh/h	-	
Peak Hour Factor	0.96		Total Trucks, %		4.00	
Segment Capacity, veh/h	1700	1700 Demand/Capacity (D/C)		y (D/C)	0.07	
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 De	ensity, veh/mi/ln	0.8	
%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	Tangent 5280 -			-	45.0	
Vehicle Results	_					
Average Speed, mi/h	45.0		Percent Followers	5, %	27.0	
Segment Travel Time, minutes	1.33		Followers Density	, followers/mi/ln	0.8	
Vehicle LOS	A					
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3_Lodi Ln - West of Project Driveway (WB) - Friday PM - E.xuf

		HCS7 Two-Lai	ne l	Highway Re	eport	
Pro	ject Information					
Anal	yst	KT		Date		12/4/2020
Ager	ncy	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 (EB) – Friday P		Unit		United States Customary
		Se	gm	ent 1		
Vel	nicle Inputs					
Segr	nent Type	Passing Constrained	П	Length, ft		5280
Lane	Width, ft	14		Shoulder Width, ft	t	0
Spee	d Limit, mi/h	45		Access Point Dens	ity, pts/mi	11.0
Dei	nand and Capacity					
Dire	tional Demand Flow Rate, veh/h	81		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)		0.05
Inte	ermediate Results	-				
Segr	nent Vertical Class	1		Free-Flow Speed,	mi/h	45.5
Spee	d Slope Coefficient	3.02537		Speed Power Coefficient		0.41674
PF S	ope Coefficient	-1.38653		PF Power Coefficient		0.71808
In Pa	ssing Lane Effective Length?	No		Total Segment Density, veh/mi/ln		0.4
%lm	proved % Followers	0.0		% Improved Avg S	Speed	0.0
Suk	segment Data					
#	Segment Type	Length, ft	Radiu	dius, ft Superelevation, %		Average Speed, mi/h
1	Tangent	5280	-		-	45.5
Vel	nicle Results					
Aver	age Speed, mi/h	45.5		Percent Followers,	. %	20.4
	nent Travel Time, minutes	1.32		Followers Density, followers/mi/ln		0.4
Vehi	cle LOS	А				
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4_Lodi Ln – East of Project Driveway (EB) – Friday PM – E.xuf

		HCS7 Two-Lai	ne Highway R	eport	
Pro	oject Information				
Ana	lyst	KT	Date		12/4/20
Age	ncy	W-Trans	Analysis Year		2020
Juris	sdiction	County of Napa	Time Period Anal	yzed	Friday PM Existing
Proj	ect Description	Lodi Ln – East of Project Driveway (WB) – Friday	t Unit PM		United States Customary
		Se	gment 1		
Ve	hicle Inputs				
Seg	ment Type	Passing Constrained	Length, ft		5280
Lan	e Width, ft	14	Shoulder Width,	t	0
Spe	ed Limit, mi/h	45	Access Point Den	sity, pts/mi	0.0
De	mand and Capacity				
Dire	ectional Demand Flow Rate, veh/h	118	Opposing Demar	nd Flow Rate, veh/h	-
Peal	k Hour Factor	0.96	Total Trucks, %		2.00
Seg	ment Capacity, veh/h	1700	Demand/Capacit	/ (D/C)	0.07
Int	ermediate Results				
Seg	ment Vertical Class	1	Free-Flow Speed,	mi/h	48.2
Spe	ed Slope Coefficient	3.17442	Speed Power Coe	fficient	0.41674
PF S	ilope Coefficient	-1.37589	PF Power Coeffici	ent	0.72723
In P	assing Lane Effective Length?	No	Total Segment De	ensity, veh/mi/ln	0.6
%In	proved % Followers	0.0	% Improved Avg	Speed	0.0
Su	bsegment Data				
#	Segment Type	Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h
1 Tangent		5280	-	-	47.6
Ve	hicle Results			<u>'</u>	
Ave	rage Speed, mi/h	47.6	Percent Followers	i, %	25.2
Seg	ment Travel Time, minutes	1.26	Followers Density, followers/mi/ln		0.6
Veh	icle LOS	A			
Соруг	ight © 2020 University of Florida. All Rights	Reserved HCS100 Tv	wo-Lane Version 7.8		Generated: 12/06/2020 19:34

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4_Lodi Ln = East of Project Driveway (WB) = Friday PM = Exuf

	HCS7 Two-Lar	ne Highway R	eport	
Project Information				
Analyst	KT	Date		12/4/20
Agency	W-Trans	Analysis Year		2020
Jurisdiction	County of Napa	Time Period Anal	yzed	Friday PM Existing
Project Description	Silverado Trail – North o Lodi Lane (NB) – Friday			United States Customary
	Se	gment 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 Den	sity, pts/mi	5.0
Demand and Capacity				
Directional Demand Flow Rate, veh/h	345	Opposing Demar	nd Flow Rate, veh/h	-
Peak Hour Factor	0.96	Total Trucks, %		2.00
Segment Capacity, veh/h	1700	Demand/Capacit	y (D/C)	0.20
Intermediate Results				
Segment Vertical Class	1	Free-Flow Speed,	mi/h	50.0
Speed Slope Coefficient	3.26927	Speed Power Coe	efficient	0.41674
PF Slope Coefficient	-1.36736	PF Power Coeffic	ient	0.73272
In Passing Lane Effective Length?	No	Total Segment De	ensity, veh/mi/ln	3.3
%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	-	-	48.2
Vehicle Results				
Average Speed, mi/h	48.2	Percent Followers	5, %	46.6
Segment Travel Time, minutes	1.25	Followers Density	, followers/mi/ln	3.3
Vehicle LOS	В			

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HCS7 Two-La	ane High <u>wa</u>	y Report	
KT	Date		12/4/20
W-Trans	Analysis Yea	r	2020
County of Napa	Time Period	Analyzed	Friday PM Existing
			United States Customary
Se	egment 1		
Passing Constrained	Length, ft		5280
12	Shoulder Wi	idth, ft	6
45	Access Point	Density, pts/mi	1.0
328	Opposing D	emand Flow Rate, veh/h	-
0.96	Total Trucks,	%	2.00
1700	Demand/Ca	pacity (D/C)	0.19
1	Free-Flow S _I	peed, mi/h	51.0
3.32347	Speed Powe	r Coefficient	0.41674
-1.36191	PF Power Co	pefficient	0.73576
No	Total Segme	ent Density, veh/mi/ln	3.0
0.0	% Improved	Avg Speed	0.0
Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h
5280	-	-	49.2
49.2	Percent Follo	owers, %	45.1
1.22	Followers De	ensity, followers/mi/ln	3.0
В			
	KT W-Trans County of Napa Silverado Trail – North Lodi Lane (SB) – Friday Silverado Trail – North Lodi Lane (SB) – Friday Silverado Trail – North Lodi Lane (SB) – Friday Silverado Trail – North Lodi Lane (SB) – Friday Silverado Lane	KT Date W-Trans Analysis Yea County of Napa Time Period Silverado Trail – North of Lodi Lane (SB) – Friday PM Segment 1 Passing Constrained Length, ft 12 Shoulder W. 45 Access Point 328 Opposing D 0.96 Total Trucks, 1700 Demand/Ca 1 Free-Flow S 3.32347 Speed Powe -1.36191 PF Power Cc No Total Segmen 0.0 % Improved Length, ft Radius, ft 5280 -	W-Trans Analysis Year County of Napa Silverado Trail – North of Lodi Lane (SB) – Friday PM Segment 1 Passing Constrained Length, ft 12 Shoulder Width, ft 45 Access Point Density, pts/mi 328 Opposing Demand Flow Rate, veh/h 1700 Demand/Capacity (D/C) 1 Free-Flow Speed, mi/h 3.32347 Speed Power Coefficient -1.36191 PF Power Coefficient No Total Segment Density, veh/mi/ln 0.0 % Improved Avg Speed Length, ft Radius, ft Superelevation, % 5280 - 49.2 Percent Followers, % 1.22 Followers Density, followers/mi/ln

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		HCS7 Two-Lai	ne Highway R	eport		
Pro	ject Information					
Anal	yst	KT	Date		12/4/20	
Age	ncy	W-Trans	Analysis Year		2020	
Juris	diction	County of Napa	Time Period Anal	yzed	Friday PM Existing	
Proje	ect Description	Silverado Trail – South o Lodi Lane (NB) – Friday			United States Customary	
		Se	gment 1			
Vel	nicle Inputs					
Segr	ment 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	
De	mand and Capacity					
Dire	ctional Demand Flow Rate, veh/h	377	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)	0.22	
Int	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	ssing Lane Effective Length?	No	Total Segment De	ensity, veh/mi/ln	3.8	
%lm	proved % Followers	0.0	% Improved Avg	Speed	0.0	
Sul	segment 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	Percent Followers	s, %	48.8	
Segr	ment Travel Time, minutes	1.25	Followers Density	Followers Density, followers/mi/ln 3.8		
Vehi	cle LOS	В				
_	-ba @ 2020 Heimorie of Florido All Bioba-	December 1	\/		C	

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6 Silverado Trail – South of Lodi Lane (Northbound) – Weekday PM.xuf

		HCS7 Two-La	ne	Highway Re	eport	
Pro	oject Information					
Ana	alyst	KT		Date		12/4/20
Age	ency	W-Trans		Analysis Year		2020
Juri	sdiction	County of Napa		Time Period Analy	/zed	Friday PM Existing
Pro	ject Description	Silverado Trail – South Lodi Lane (SB) – Friday		Unit		United States Customary
		Sc	egn	nent 1		
Ve	hicle Inputs					
Seg	gment Type	Passing Constrained		Length, ft		5280
Lan	e Width, ft	12		Shoulder Width, f	t	6
Spe	eed Limit, mi/h	45		Access Point Dens	sity, pts/mi	1.0
De	emand and Capacity					
Dire	ectional Demand Flow Rate, veh/h	324		Opposing Demand Flow Rate, veh/h		-
Pea	k Hour Factor	0.96		Total Trucks, %		2.00
Seg	gment Capacity, veh/h	1700	700 Demand/Capacity (D/C)		(D/C)	0.19
Int	termediate Results	·				
Seg	gment Vertical Class	1		Free-Flow Speed,	mi/h	51.0
Spe	eed Slope Coefficient	3.32347		Speed Power Coefficient		0.41674
PF S	Slope Coefficient	-1.36191		PF Power Coefficient		0.73576
In P	Passing Lane Effective Length?	No		Total Segment Density, veh/mi/ln		2.9
%In	mproved % 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	-		-	49.2
Ve	hicle Results					
Ave	erage Speed, mi/h	49.2		Percent Followers	, %	44.8
Seg	gment Travel Time, minutes	1.22		Followers Density, followers/mi/ln		2.9
Veh	nicle LOS	В				
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6. Silverado Trail – South of Lodi Lane (Southbound) – Weekday PM.xuf

		HCS7 Two-Lai	ne Hi	ighway Re	eport	
Pro	ject Information					
Ana	lyst	KT	Da	ite		12/4/20
Age	ncy	W-Trans	An	alysis Year		2020
Juris	diction	County of Napa	Tin	ne Period Analy	zed	Saturday PM Existing
Proj	ect Description	SR 29 – North of Lodi La (NB) – Saturday PM	ane Un	nit		United States Customary
		Se	gmer	nt 1		
Vel	hicle Inputs					
Seg	ment Type	Passing Constrained	Ler	ngth, ft		5280
Lane	e Width, ft	12	Sho	oulder Width, ft	t	6
Spe	ed Limit, mi/h	50	Acc	cess Point Dens	ity, pts/mi	4.0
De	mand and Capacity					
Dire	ctional Demand Flow Rate, veh/h	728	Ор	posing Deman	d Flow Rate, veh/h	-
Peal	Hour Factor	0.96	Tot	Total Trucks, %		2.00
Seg	ment Capacity, veh/h	1700	De	Demand/Capacity (D/C)		0.43
Int	ermediate Results					
Segi	ment Vertical Class	1	1 Free-Flow Speed, mi/h		mi/h	55.9
Spe	ed Slope Coefficient	3.59176	Spe	Speed Power Coefficient		0.41674
PF S	lope Coefficient	-1.32959	PF	PF Power Coefficient		0.74990
In Pa	assing Lane Effective Length?	No	Tot	Total Segment Density, veh/mi/ln		8.9
%lm	proved % Followers	0.0	% I	% Improved Avg Speed		0.0
Sul	bsegment Data					
#	Segment Type	Length, ft	Radius,	ft	Superelevation, %	Average Speed, mi/h
1	Tangent	5280	-		-	53.0
Vel	hicle Results					
Ave	rage Speed, mi/h	53.0	Per	Percent Followers, %		64.9
Seg	ment Travel Time, minutes	1.13	Fol	Followers Density, followers/mi/ln		8.9
Vehi	icle LOS	С				
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1_SR 29 - North of Lodi Lane (Northbound) - Saturday PM.xuf

	HCS7 Two-La	ane Hig	hway Repor	t	
Project Information					
Analyst	KT	Date			12/4/2020
Agency	W-Trans	Analy	sis Year		2020
Jurisdiction	County of Napa	Time	Period Analyzed		Saturday PM Existing
Project Description	SR 29 – North of Lodi (SB) – Saturday PM	Lane Unit			United States Customary
	S	egment	1		
Vehicle Inputs					
Segment Type	Passing Constrained	Lengt	h, ft		5280
Lane Width, ft	12	Shou	der Width, ft		6
Speed Limit, mi/h	50	Acces	Access Point Density, pts/mi		10.0
Demand and Capacity					
Directional Demand Flow Rate, ve	h/h 704	Орро	Opposing Demand Flow Rate, veh/h		-
Peak Hour Factor	0.96	Total	Trucks, %		2.00
Segment Capacity, veh/h	1700	Dema	Demand/Capacity (D/C)		0.41
Intermediate Results	·				
Segment Vertical Class	1	Free-	Flow Speed, mi/h		54.4
Speed Slope Coefficient	3.51046	Spee	Speed Power Coefficient		0.41674
PF Slope Coefficient	-1.34026	PF Pc	PF Power Coefficient		0.74575
In Passing Lane Effective Length?	No	Total	Total Segment Density, veh/mi/ln		8.8
%Improved % Followers	0.0	% Im	% Improved Avg Speed		0.0
Subsegment Data					
# Segment Type	Length, ft	Radius, ft	Super	elevation, %	Average Speed, mi/h
1 Tangent	5280	-	-		51.6
Vehicle Results			'		
Average Speed, mi/h	51.6	Perce	nt Followers, %		64.4
Segment Travel Time, minutes	1.16	Followers Density, follo		ers/mi/ln	8.8
Vehicle LOS	С				

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

HCS7 Two-La	ne Highway R	eport							
Project Information									
KT	Date		12/4/20						
W-Trans	Analysis Year		2020						
County of Napa	Time Period Analy	/zed	Saturday PM Existing						
SR 29 – South of Lodi La (NB) – Saturday PM	ane Unit		United States Customary						
Se	gment 1								
Passing Constrained	Length, ft		5280						
12	Shoulder Width, f	t	6						
50	Access Point Dens	sity, pts/mi	4.0						
738	Opposing Deman	d Flow Rate, veh/h	-						
0.96	Total Trucks, %		2.00						
1700	Demand/Capacity	/ (D/C)	0.43						
1	Free-Flow Speed,	mi/h	55.9						
3.59176	Speed Power Coe	fficient	0.41674						
-1.32959	PF Power Coeffici	ent	0.74990						
No	Total Segment De	nsity, veh/mi/ln	9.1						
0.0	% Improved Avg	Speed	0.0						
Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h						
5280	-	-	53.0						
53.0	Percent Followers	, %	65.3						
1.13	Followers Density	, followers/mi/ln	9.1						
С									
	KT W-Trans County of Napa SR 29 – South of Lodi La (NB) – Saturday PM Se Passing Constrained 12 50 738 0.96 1700 1 3.59176 -1.32959 No 0.0 Length, ft 5280 53.0 1.13	KT Date W-Trans Analysis Year County of Napa Time Period Analy SR 29 – South of Lodi Lane (NB) – Saturday PM Segment 1 Passing Constrained Length, ft 12 Shoulder Width, ft 50 Access Point Dens 738 Opposing Deman 0.96 Total Trucks, % 1700 Demand/Capacity 1 Free-Flow Speed, 3.59176 Speed Power Coe -1.32959 PF Power Coeffici No Total Segment De 0.0 % Improved Avg 3 Length, ft Radius, ft 5280 - 53.0 Percent Followers 1.13 Followers Density	W-Trans Analysis Year County of Napa Time Period Analyzed SR 29 – South of Lodi Lane (NB) – Saturday PM Segment 1 Passing Constrained Length, ft 12 Shoulder Width, ft 50 Access Point Density, pts/mi 738 Opposing Demand Flow Rate, veh/h 0.96 Total Trucks, % 1700 Demand/Capacity (D/C) 1 Free-Flow Speed, mi/h 3.59176 Speed Power Coefficient -1.32959 PF Power Coefficient No Total Segment Density, veh/mi/ln 0.0 % Improved Avg Speed Length, ft Radius, ft Superelevation, % 53.0 Percent Followers, % 1.13 Followers Density, followers/mi/ln						

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

W-Trans 2020 Agency Analysis Year Jurisdiction County of Napa Time Period Analyzed Saturday PM Existing SR 29 – South of Lodi Lane Unit (SB) – Saturday PM Project Description United States Customary Segment 1 **Vehicle Inputs** Passing Constrained Length, ft 5280 Segment Type Lane Width, ft 12 Shoulder Width, ft Speed Limit, mi/h 50 Access Point Density, pts/mi 10.0 Demand and Capacity 717 Opposing Demand Flow Rate, veh/h Directional Demand Flow Rate, veh/h Peak Hour Factor 0.96 Total Trucks, % 2.00 1700 0.42 Segment Capacity, veh/h Demand/Capacity (D/C) **Intermediate Results** Segment Vertical Class Free-Flow Speed, mi/h 54.4 3.51046 Speed Slope Coefficient 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 9.0 0.0 %Improved % Followers 0.0 % Improved Avg Speed **Subsegment Data** Length, ft Radius, ft Average Speed, mi/h Segment Type Superelevation, % Tangent 5280 51.6 **Vehicle Results** Average Speed, mi/h 51.6 Percent Followers, % 64.8 1.16 9.0 Segment Travel Time, minutes Followers Density, followers/mi/ln Vehicle LOS Copyright © 2020 University of Florida. All Rights Reserved. HCSTMI 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

Date

12/4/2020

КТ

Project Information

Analyst

	HCS7 Two	-Lane	Highway	Report		
Project Information						
Analyst KT			Date		12/4/2020	
Agency	W-Trans		Analysis Year		2020	
Jurisdiction	County of Napa		Time Period A	nalyzed	Saturday PM Existing	
Project Description	Lodi Ln – West of Driveway (EB) – S. PM		Unit		United States Customary	
		Segn	nent 1			
Vehicle Inputs						
Segment Type	Passing Constrain	ned	Length, ft		5280	
Lane Width, ft	14		Shoulder Widt	h, ft	0	
Speed Limit, mi/h	45		Access Point D	ensity, pts/mi	11.0	
Demand and Capacity						
Directional Demand Flow Rate, veh/h	51	51		nand Flow Rate, veh/h	-	
Peak Hour Factor	0.96	0.96		1	2.00	
Segment Capacity, veh/h	1700		Demand/Capa	city (D/C)	0.03	
Intermediate Results						
Segment Vertical Class	1		Free-Flow Speed, mi/h		45.5	
Speed Slope Coefficient	3.02537	3.02537		Coefficient	0.41674	
PF Slope Coefficient	-1.38653		PF Power Coefficient		0.71808	
n Passing Lane Effective Length?	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	dius, ft	Superelevation, %	Average Speed, mi/h	
1 Tangent	5280	-		-	45.5	
Vehicle Results					,	
Average Speed, mi/h 45.5			Percent Follow	ers, %	15.1	
Segment Travel Time, minutes	1.32		Followers Density, followers/mi/ln		0.2	
Vehicle LOS	А					

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

		HCS7 Two-La	ne	Highway Re	eport	
Project Inf	ormation		_			
Analyst		KT		Date		12/4/2020
Agency		W-Trans		Analysis Year		2020
Jurisdiction		County of Napa		Time Period Analy	zed	Saturday PM Existing
Project Descrip	otion	Lodi Ln – West of Proje Driveway (WB) – Sature PM		Unit		United States Customary
		Se	egn	nent 1		
Vehicle Inp	outs					
Segment Type		Passing Constrained		Length, ft		5280
Lane Width, ft		14		Shoulder Width, f	t	0
Speed Limit, m	ii/h	45		Access Point Density, pts/mi		10.0
Demand a	nd Capacity			·		
Directional De	mand Flow Rate, veh/h	54		Opposing Deman	d Flow Rate, veh/h	-
Peak Hour Fact	tor	0.96		Total Trucks, %		2.00
Segment Capa	city, veh/h	1700	700 Demand/Capacity (D/C)		(D/C)	0.03
Intermedia	ate Results					
Segment Vertic	cal Class	1		Free-Flow Speed, mi/h		45.7
Speed Slope C	oefficient	3.03892		Speed Power Coefficient		0.41674
PF Slope Coeff	icient	-1.38571		PF Power Coefficient		0.71894
In Passing Lane	Effective Length?	No		Total Segment Density, veh/mi/ln		0.2
%Improved %	Followers	0.0		% Improved Avg Speed		0.0
Subsegme	nt Data					
# Segment	Туре	Length, ft	Rad	lius, ft	Superelevation, %	Average Speed, mi/h
1 Tangent		5280 -			-	45.7
Vehicle Re	sults					
Average Speed	l, mi/h	45.7		Percent Followers, %		15.7
Segment Trave	I Time, minutes	1.31		Followers Density	followers/mi/ln	0.2
Vehicle LOS		A		, , ,		

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3_Lodi Ln – West of Project Driveway (Westbound) – Weekend PM.xuf Generated: 12/04/2020 13:16:11

Project Information					
Analyst	KT	Date			12/4/2020
Agency	W-Trans		is Year		2020
Jurisdiction	County of Napa		Period Analyzed		Saturday PM Existing
Project Description	Lodi Ln – East of Pro Driveway (EB) – Satu PM	ject Unit			United States Customary
	:	Segment	1		
Vehicle Inputs					
Segment Type	Passing Constrained	Lengt	n, ft		5280
Lane Width, ft	14	Shoule	der Width, ft		0
Speed Limit, mi/h	45	Acces	Point Density, pts/m	i	0.0
Demand and Capacity					
Directional Demand Flow Rate, veh/h	51	Орро	Opposing Demand Flow Rate, veh/h		-
Peak Hour Factor	0.91	Total	rucks, %		3.00
Segment Capacity, veh/h	1700	Dema	nd/Capacity (D/C)		0.03
Intermediate Results					
Segment Vertical Class	1	Free-F	Free-Flow Speed, mi/h		48.2
Speed Slope Coefficient	3.17262	Speed	Speed Power Coefficient		0.41674
PF Slope Coefficient	-1.37591	PF Pov	ver Coefficient		0.72726
In Passing Lane Effective Length?	No	Total S	Total Segment Density, veh/mi/ln		0.2
%Improved % Followers	0.0	% Imp	% Improved Avg Speed		0.0
Subsegment Data					
# Segment Type	Length, ft	Radius, ft	Superele	evation, %	Average Speed, mi/h
1 Tangent	5280	-	-		48.2
Vehicle Results		_			
Average Speed, mi/h	48.2	Percer	t Followers, %		14.5
Segment Travel Time, minutes	1.24	Follow	ers Density, followers	/mi/ln	0.2
Vehicle LOS	А				

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4_Lodi Ln = East of Project Driveway (Westbound) = Weekend PM.xuf Generated: 12/04/2020 13:25:46

		HCS7 Two-La	ne	Highway Re	eport	
Pro	ject Information					
Anal	yst	KT		Date		12/4/20
Age	ncy	W-Trans		Analysis Year		2020
Juris	diction	County of Napa		Time Period Analy	zed	Saturday PM Existing
Proje	ect Description	Lodi Ln – East of Projec Driveway (WB) – Satur PM	ct day	Unit		United States Customary
		Se	egn	nent 1		
Veł	nicle Inputs					
Segr	ment 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		0.0
Dei	mand and Capacity					
Dire	ctional Demand Flow Rate, veh/h	67		Opposing Deman	d Flow Rate, veh/h	-
Peak	Hour Factor	0.91		Total Trucks, %		3.00
Segr	ment Capacity, veh/h	1700		Demand/Capacity	(D/C)	0.04
Inte	ermediate Results					
Segr	ment 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	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	osegment Data	·				
#	Segment Type	Length, ft	Rad	lius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	5280	-		-	48.2
Veł	nicle Results					
Aver	rage Speed, mi/h	48.2		Percent Followers	, %	17.5
Segr	ment Travel Time, minutes	1.24		Followers Density	followers/mi/ln	0.2
\/- I-:	ele LOC	۸				1

Desired Life and Control				
Project Information				
Analyst	KT	Date		12/4/20
Agency	W-Trans	Analysis Year		2020
Jurisdiction	County of Napa	Time Period Analy	yzed	Saturday PM Existing
Project Description	Silverado Trail – North o Lodi Lane (NB) – Saturda PM			United States Customary
	Seg	gment 1		
Vehicle Inputs				
Segment Type	Passing Constrained	Length, ft		5280
Lane Width, ft	12	Shoulder Width, f	t	6
Speed Limit, mi/h	45	Access Point Dens	sity, pts/mi	5.0
Demand and Capacity				
Directional Demand Flow Rate, veh/h	342	Opposing Deman	d Flow Rate, veh/h	-
Peak Hour Factor	0.91	Total Trucks, %		3.00
Segment Capacity, veh/h	1700	Demand/Capacity	/ (D/C)	0.20
Intermediate Results				
Segment Vertical Class	1	Free-Flow Speed,	mi/h	50.0
Speed Slope Coefficient	3.26747	Speed Power Coe	fficient	0.41674
PF Slope Coefficient	-1.36740	PF Power Coeffici	0.73276	
In Passing Lane Effective Length?	No	Total Segment De	ensity, veh/mi/ln	3.3
%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		-	48.1
Vehicle Results				
Average Speed, mi/h 48.1		Percent Followers	, %	46.3
Segment Travel Time, minutes	1.25	Followers Density, followers/mi/ln		3.3
Vehicle LOS	В			

	HCS7 Two-La	ane	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 Existing
Project Description	Silverado Trail – North Lodi Lane (SB) – Sature PM		Unit		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	45		Access Point Density, pts/mi		1.0
Demand and Capacity					
Directional Demand Flow Rate, veh/h	312		Opposing Deman	d Flow Rate, veh/h	-
Peak Hour Factor	0.91	Total Trucks, %			3.00
Segment Capacity, veh/h	1700		Demand/Capacity	(D/C)	0.18
Intermediate Results					
Segment Vertical Class	1		Free-Flow Speed, mi/h		51.0
Speed Slope Coefficient	3.32167		Speed Power Coefficient		0.41674
PF Slope Coefficient	-1.36197		PF Power Coefficient		0.73580
In Passing Lane Effective Length?	No		Total Segment De	nsity, veh/mi/ln	2.8
%Improved % Followers	0.0		% Improved Avg Speed		0.0
Subsegment Data	·				-
# Segment Type	Length, ft	Rad	dius, ft	Superelevation, %	Average Speed, mi/h
1 Tangent 5280 -			-	49.2	
Vehicle Results					
Average Speed, mi/h	49.2		Percent Followers	%	43.9
Segment Travel Time, minutes	1.22		Followers Density	followers/mi/ln	2.8
Vehicle LOS	В	В			

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5. Silverado Trail – North of Lodi Lane (Southbound) – Weekend PM.xuf

Project Information					
Analyst	КТ	Date			12/4/20
Agency	W-Trans	Analy	sis Year		2020
Jurisdiction	County of Napa	Time	Period Analyz	ed	Saturday PM Existing
Project Description	Silverado Trail – So Lodi Lane (NB) – S PM				United States Customar
		Segment	1		
Vehicle Inputs					
Segment Type	Passing Constraine	ed Lengt	h, ft		5280
Lane Width, ft	12	Shou	der Width, ft		6
Speed Limit, mi/h	45	Acces	s Point Densit	ty, pts/mi	5.0
Demand and Capacity					
Directional Demand Flow Rate, veh/h	358	Оррс	sing Demand	Flow Rate, veh/h	-
Peak Hour Factor	0.91	Total	Trucks, %		3.00
Segment Capacity, veh/h	1700	Dema	nd/Capacity (D/C)	0.21
Intermediate Results					
Segment Vertical Class	1	Free-	Free-Flow Speed, mi/h		50.0
Speed Slope Coefficient	3.26747	Speed Power Coefficient		icient	0.41674
PF Slope Coefficient	-1.36740	PF Po	PF Power Coefficient		0.73276
In Passing Lane Effective Length?	No	Total	Total Segment Density, veh/mi/ln		3.5
%Improved % Followers	0.0	% Im	% Improved Avg Speed		0.0
Subsegment Data		,			
# Segment Type	Length, ft	Radius, ft		Superelevation, %	Average Speed, mi/h
1 Tangent	5280	-		-	48.1
Vehicle Results	_				
Average Speed, mi/h 48.1		Perce	nt Followers, S	%	47.5
Segment Travel Time, minutes 1.25		Follo	Followers Density, followers/mi/ln		3.5
Vehicle LOS	В				

But at the country				
Project Information				
Analyst	KT	Date		12/4/20
Agency	W-Trans	Analysis Year		2020
Jurisdiction	County of Napa	Time Period Ana	alyzed	Saturday PM Existing
Project Description	Silverado Trail – South Lodi Lane (SB) – Saturd PM			United States Customar
	Se	gment 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 De	nsity, pts/mi	1.0
Demand and Capacity				
Directional Demand Flow Rate, veh/h	312	Opposing Dema	and Flow Rate, veh/h	-
Peak Hour Factor	0.91	Total Trucks, %		3.00
Segment Capacity, veh/h	1700	Demand/Capac	ity (D/C)	0.18
Intermediate Results				
Segment Vertical Class	1	Free-Flow Spee	d, mi/h	51.0
Speed Slope Coefficient	3.32167	Speed Power Co	pefficient	0.41674
PF Slope Coefficient	-1.36197	PF Power Coeffi	cient	0.73580
In Passing Lane Effective Length?	No	Total Segment I	Density, veh/mi/ln	2.8
%Improved % Followers	0.0	% Improved Av	g 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	Percent Followe	ers, %	43.9
Segment Travel Time, minutes	1.22	Followers Densi	ty, followers/mi/ln	2.8
Vehicle LOS	В			

		HCS7 Two-La	ne	Highway Re	eport						
Pro	Project Information										
Anal	yst	КТ	KT			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 La (NB) – Friday PM	ane	Unit		United States Customary					
		Se	gm	nent 1							
Vel	nicle Inputs										
Segr	ment Type	Passing Constrained		Length, ft		5280					
Lane	Width, ft	12		Shoulder Width, ft	t	6					
Spee	ed Limit, mi/h	50		Access Point Dens	ity, pts/mi	4.0					
Dei	mand and Capacity										
Dire	ctional Demand Flow Rate, veh/h	741		Opposing Deman	d 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					
Inte	ermediate Results										
Segr	ment Vertical Class	1		Free-Flow Speed, mi/h		55.9					
Spee	ed Slope Coefficient	3.58815		Speed Power Coefficient		0.41674					
PF S	lope Coefficient	-1.32983		PF Power Coefficient		0.75000					
In Pa	assing Lane Effective Length?	No		Total Segment Density, veh/mi/ln		9.2					
%lm	proved % Followers	0.0		% Improved Avg Speed		0.0					
Sub	osegment Data										
#	Segment Type	Length, ft	Rad	ius, ft	Superelevation, %	Average Speed, mi/h					
1	Tangent	5280	-		-	52.9					
Vel	nicle Results										
Aver	age Speed, mi/h	52.9		Percent Followers, %		65.4					
Segr	ment Travel Time, minutes	1.13	1.13		followers/mi/ln	9.2					
Vehi	cle LOS	С									
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1_SR 29 - North of Lodi Lane (NB) - Friday PM - B.xuf

Project	Information					
Analyst		KT		Date		12/4/2020
Agency		W-Trans		Analysis Year		2020
Jurisdictio	on	County of Napa		Time Period Analy	zed	Friday PM Baseline
Project D	escription	SR 29 – North of Lodi La (SB) – Friday PM	ane	Unit		United States Customa
		Se	gm	ent 1		
Vehicle	Inputs					
Segment	Туре	Passing Constrained		Length, ft		5280
Lane Wid	th, ft	12		Shoulder Width, f	t	6
Speed Lir	nit, mi/h	50		Access Point Dens	ity, pts/mi	10.0
Demar	nd and Capacity					
Direction	al Demand Flow Rate, veh/h	677		Opposing Demand Flow Rate, veh/h		-
Peak Hou	r Factor	0.96		Total Trucks, %		4.00
Segment	Capacity, veh/h	1700		Demand/Capacity	(D/C)	0.40
Interm	ediate Results					
Segment	Vertical Class	1		Free-Flow Speed,	mi/h	54.4
Speed Slo	ope Coefficient	3.50685		Speed Power Coefficient		0.41674
PF Slope	Coefficient	-1.34047		PF Power Coefficient		0.74585
In Passing	Lane Effective Length?	No		Total Segment Density, veh/mi/ln		8.3
%Improve	ed % Followers	0.0		% Improved Avg S	Speed	0.0
Subseg	ment Data					
# Seg	ment Type	Length, ft	Radi	ius, ft	Superelevation, %	Average Speed, mi/h
1 Tan	gent	5280	-		-	51.6
Vehicle	Results					
Average S	Speed, mi/h	51.6		Percent Followers	%	63.3
Segment	Travel Time, minutes	1.16		Followers Density	followers/mi/ln	8.3
Vehicle LO	OS	С				

		HCS7 Two-Lai	ne l	Highway Re	eport						
Pro	Project Information										
Anal	yst	KT		Date		12/4/2020					
Agei	ncy	W-Trans		Analysis Year		2020					
Juris	diction	County of Napa	1	Time Period Analy	zed	Friday PM Baseline					
Proje	ect Description	SR 29 – South of Lodi La (NB) – Friday PM	ane	Unit		United States Customary					
		Se	gm	ent 1							
Vel	nicle Inputs										
Segr	ment Type	Passing Constrained		Length, ft		5280					
Lane	Width, ft	12		Shoulder Width, ft	t	6					
Spee	ed Limit, mi/h	50		Access Point Dens	ity, pts/mi	4.0					
Dei	mand and Capacity										
Dire	ctional Demand Flow Rate, veh/h	744		Opposing Deman	d Flow Rate, veh/h	-					
Peak	Hour Factor	0.96	1	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		55.9					
Spee	ed Slope Coefficient	3.58815		Speed Power Coefficient		0.41674					
PF S	lope Coefficient	-1.32983		PF Power Coefficient		0.75000					
In Pa	assing Lane Effective Length?	No		Total Segment Density, veh/mi/ln		9.2					
%lm	proved % Followers	0.0	-	% Improved Avg Speed		0.0					
Sul	osegment Data										
#	Segment Type	Length, ft	Radiu	us, ft	Superelevation, %	Average Speed, mi/h					
1	Tangent	5280	-		-	52.9					
Vel	nicle Results										
Aver	rage Speed, mi/h	52.9		Percent Followers, %		65.5					
Segr	ment Travel Time, minutes	1.13		Followers Density,	followers/mi/ln	9.2					
Vehi	cle LOS	С									
	Table @ 2020 Hall could of Florida All Bioba	December 1		\/: 7.0		C					

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$\overline{}$					
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	yzed	Friday PM Baseline
Proje	ect Description	SR 29 – South of Lodi La (SB) – Friday PM	ne Unit		United States Customar
		Seg	gment 1		
Vel	nicle Inputs				
Segr	ment Type	Passing Constrained	Length, ft		5280
Lane	Width, ft	12	Shoulder Width, f	t	6
Spe	ed Limit, mi/h	50	Access Point Dens	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	efficient	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	% Improved Avg Speed	
Sul	osegment Data				
#	Segment Type	Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	5280 -	-	-	51.4
Vel	nicle Results				
Aver	rage Speed, mi/h	51.4	Percent Followers	, %	65.9
	ment Travel Time, minutes	1.17	Followers Density	•	9.6
_	cle LOS	C	1		

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

		HCS7 Two-Lane Highway Report				
Pro	ject Information					
Anal	yst	КТ		Date		12/4/2020
Agei	ncy	W-Trans		Analysis Year		2020
Juris	diction	County of Napa		Time Period Analy	zed	Friday PM Baseline
Proje	ect Description		Lodi Ln – West of Project Driveway (EB) – Friday PM			United States Customary
		Se	gn	nent 1		
Vel	nicle Inputs					
Segr	ment Type	Passing Constrained		Length, ft		5280
Lane	Width, ft	14		Shoulder Width, f	t	0
Spee	ed Limit, mi/h	45	45 Access Point		ity, pts/mi	11.0
Dei	mand and Capacity					
Dire	ctional Demand Flow Rate, veh/h	71		Opposing Deman	d Flow Rate, veh/h	-
Peak	Hour Factor	0.96		Total Trucks, %		4.00
Segr	ment Capacity, veh/h	1700		Demand/Capacity	(D/C)	0.04
Int	ermediate Results					
Segr	ment Vertical Class	1		Free-Flow Speed, mi/h		45.4
Spee	ed Slope Coefficient	3.02176	3.02176		fficient	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	Rad	lius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	5280	-		-	45.4
Vel	nicle Results					
Aver	age Speed, mi/h	45.4		Percent Followers, %		18.7
Segr	ment Travel Time, minutes	1.32		Followers Density, followers/mi/ln		0.3
Vehi	cle LOS	А				
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3_Lodi Ln – West of Project Driveway (EB) – Friday PM – B.xuf

		HCS7 Two-Lar	ne Highway Ro	eport	
Pro	oject Information				
Ana	lyst	KT	Date		12/4/2020
Age	ncy	W-Trans	Analysis Year		2020
Juris	sdiction	County of Napa	Time Period Analy	/zed	Friday PM Baseline
Proj	ect Description	Lodi Ln – West of Project Driveway (WB) – Friday			United States Customary
		Se	gment 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	10.0
De	mand and Capacity				
Dire	ectional Demand Flow Rate, veh/h	136	Opposing Deman	d Flow Rate, veh/h	-
Peal	k Hour Factor	0.96	Total Trucks, %		4.00
Seg	ment Capacity, veh/h	1700	Demand/Capacity	(D/C)	0.08
Int	ermediate Results				
Seg	ment Vertical Class	1	Free-Flow Speed,	mi/h	45.7
Spe	ed Slope Coefficient	3.03531	Speed Power Coe	fficient	0.41674
PF S	Slope Coefficient	-1.38568	PF Power Coefficie	ent	0.71899
In P	assing Lane Effective Length?	No	Total Segment De	nsity, veh/mi/ln	0.9
%lm	nproved % Followers	0.0	% Improved Avg	Speed	0.0
Su	bsegment Data				
#	Segment Type	Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	5280	-	-	44.9
Vel	hicle Results				
Ave	rage Speed, mi/h	44.9	Percent Followers	, %	28.2
Seg	ment Travel Time, minutes	1.34	Followers Density	, followers/mi/ln	0.9
Veh	icle LOS	A			
Opvr	ight © 2020 University of Florida. All Right	s Reserved HCSTIM To	wo-Lane Version 7.8		Generated: 12/06/2020 19:31:56

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	HCS7 Two-Lar	ne Highway R	eport	
Project Information				
Analyst	KT	Date		12/4/2020
Agency	W-Trans	Analysis Year		2020
Jurisdiction	County of Napa	Time Period Anal	yzed	Friday PM Baseline
Project Description	Lodi Ln – East of Project Driveway (EB) – Friday P			United States Customary
	Se	gment 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 Den	sity, pts/mi	11.0
Demand and Capacity				
Directional Demand Flow Rate, veh/h	85	Opposing Demar	nd Flow Rate, veh/h	-
Peak Hour Factor	0.96	Total Trucks, %		2.00
Segment Capacity, veh/h	1700	Demand/Capacity	y (D/C)	0.05
Intermediate Results	-			
Segment Vertical Class	1	Free-Flow Speed,	mi/h	45.5
Speed Slope Coefficient	3.02537	Speed Power Coe	efficient	0.41674
PF Slope Coefficient	-1.38653	PF Power Coeffici	ent	0.71808
In Passing Lane Effective Length?	No	Total Segment De	ensity, veh/mi/ln	0.4
%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	-	-	45.5
Vehicle Results			'	
Average Speed, mi/h	45.5	Percent Followers	5, %	21.1
Segment Travel Time, minutes	1.32	Followers Density	, followers/mi/ln	0.4
Vehicle LOS	A			

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		HCS7 Two-Lai	ne Highway R	enort	
_					
Pro	oject Information				
Ana	lyst	KT	Date		12/4/20
Age	ncy	W-Trans	Analysis Year		2020
Juris	sdiction	County of Napa	Time Period Anal	yzed	Friday PM Baseline
Proj	ect Description	Lodi Ln – East of Project Driveway (WB) – Friday			United States Customary
		Se	gment 1		
Vel	hicle Inputs				
Seg	ment Type	Passing Constrained	Length, ft		5280
Lane	e Width, ft	14	Shoulder Width,	ft	0
Spe	ed Limit, mi/h	45	Access Point Den	sity, pts/mi	0.0
De	mand and Capacity				
Dire	ectional Demand Flow Rate, veh/h	121	Opposing Demar	nd Flow Rate, veh/h	-
Peal	k Hour Factor	0.96	Total Trucks, %		2.00
Seg	ment Capacity, veh/h	1700	Demand/Capacity	y (D/C)	0.07
Int	ermediate Results				
Seg	ment Vertical Class	1	Free-Flow Speed,	mi/h	48.2
Spe	ed Slope Coefficient	3.17442	Speed Power Coe	efficient	0.41674
PF S	ilope Coefficient	-1.37589	PF Power Coeffici	ent	0.72723
In P	assing Lane Effective Length?	No	Total Segment De	ensity, veh/mi/ln	0.7
%lm	proved % Followers	0.0	% Improved Avg	Speed	0.0
Sul	bsegment Data				
#	Segment Type	Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	5280	-	-	47.6
Vel	hicle Results			<u> </u>	
Ave	rage Speed, mi/h	47.6	Percent Followers	5, %	25.6
Seg	ment Travel Time, minutes	1.26	Followers Density	, followers/mi/ln	0.7
Veh	icle LOS	А			
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4_Lodi Ln - East of Project Driveway (WB) - Friday PM - B.xuf

		HCS7 Two-La	ne	Highway Re	eport				
Pro	Project Information								
Anal	yst	КТ		Date		12/4/20			
Agei	ncy	W-Trans		Analysis Year		2020			
Juris	diction	County of Napa		Time Period Analy	zed	Friday PM Baseline			
Proje	ect Description	Silverado Trail – North of Lodi Lane (NB) – Friday PM		Unit		United States Customary			
		Se	gm	nent 1					
Vel	nicle Inputs								
Segr	ment Type	Passing Constrained		Length, ft		5280			
Lane	Width, ft	12		Shoulder Width, ft	t	6			
Spee	ed Limit, mi/h	45		Access Point Density, pts/mi		5.0			
Dei	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			
Segr	ment Capacity, veh/h	1700	1700 Den		(D/C)	0.20			
Int	ermediate Results								
Segr	ment 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		3.3			
%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	-		-	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							
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Pr	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	Friday PM Baseline
Pro	ject Description	Silverado Trail – Lodi Lane (SB) –		Unit		United States Customary
			Segr	nent 1		
Ve	hicle Inputs					
Seg	gment Type	Passing Constrai	ned	Length, ft		5280
Lan	e Width, ft	12		Shoulder Width, f	t	6
Spe	eed Limit, mi/h	45		Access Point Dens	sity, pts/mi	1.0
De	emand and Capacity					
Dire	ectional Demand Flow Rate, veh/h	329		Opposing Demand Flow Rate, veh/h		-
Pea	k Hour Factor	0.96		Total Trucks, %		2.00
Seg	gment Capacity, veh/h	1700		Demand/Capacity	(D/C)	0.19
Int	termediate Results					
Seg	ment Vertical Class	1		Free-Flow Speed,	mi/h	51.0
Spe	eed Slope Coefficient	3.32347		Speed Power Coefficient		0.41674
PF :	Slope Coefficient	-1.36191		PF Power Coefficient		0.73576
In F	Passing Lane Effective Length?	No		Total Segment Density, veh/mi/ln		3.0
%Ir	mproved % 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
Ve	hicle Results					
Ave	erage Speed, mi/h	49.2		Percent Followers	, %	45.2
Seg	ment Travel Time, minutes	1.22		Followers Density, followers/mi/ln		3.0
Vehicle LOS B		В		İ		

		HCS7 Two-La	ne	Highway Re	eport				
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	zed	Friday PM Baseline			
Proje	ect Description		Silverado Trail – South of Lodi Lane (NB) – Friday PM			United States Customary			
		Se	gm	nent 1					
Veł	nicle Inputs								
Segr	ment Type	Passing Constrained		Length, ft		5280			
Lane	Width, ft	12		Shoulder Width, ft	t	6			
Spee	ed Limit, mi/h	45		Access Point Density, pts/mi		5.0			
Dei	mand 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			
Segr	ment Capacity, veh/h	1700		Demand/Capacity (D/C)		0.22			
Inte	ermediate Results								
Segr	ment 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		3.9			
%lm	proved % Followers	0.0		% Improved Avg Speed		0.0			
Sub	osegment Data								
#	Segment Type	Length, ft	Radi	ius, 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							
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		HCS7 Two-La	ane	Highway Re	eport	
Pro	oject Information					
Ana	alyst	KT		Date		12/4/20
Age	ency	W-Trans		Analysis Year		2020
Juri	sdiction	County of Napa		Time Period Analy	zed	Friday PM Baseline
Pro	ject Description	Silverado Trail – South Lodi Lane (SB) – Friday		Unit		United States Customary
		S	egn	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	45		sity, pts/mi	1.0
De	emand and Capacity					
Dire	ectional Demand Flow Rate, veh/h	327		Opposing Deman	d Flow Rate, veh/h	-
Pea	k Hour Factor	0.96		Total Trucks, %		2.00
Seg	ment Capacity, veh/h	1700		Demand/Capacity	(D/C)	0.19
Int	termediate Results					·
Seg	ment Vertical Class	1		Free-Flow Speed,	mi/h	51.0
Spe	ed Slope Coefficient	3.32347		Speed Power Coefficient		0.41674
PF S	Slope Coefficient	-1.36191		PF Power Coefficient		0.73576
In P	Passing Lane Effective Length?	No		Total Segment Density, veh/mi/ln		3.0
%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 -			-	49.2		
Ve	hicle Results	<u>'</u>			'	<u>'</u>
Ave	erage Speed, mi/h	49.2		Percent Followers	, %	45.0
Seg	ment Travel Time, minutes	1.22		Followers Density	followers/mi/ln	3.0
Veh	nicle LOS	В				
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6_Silverado Trail – South of Lodi Lane (SB) – Friday PM – B.xuf

		HCS7 Two-La	ne	Highway Re	eport				
Pro	Project Information								
Anal	yst	КТ		Date		12/4/20			
Agei	ncy	W-Trans		Analysis Year		2020			
Juris	diction	County of Napa		Time Period Analy	zed	Saturday PM Baseline			
Proje	ect Description	SR 29 – North of Lodi La (NB) – Saturday PM	ane	Unit		United States Customary			
		Se	gm	ent 1					
Vel	nicle Inputs								
Segr	ment Type	Passing Constrained		Length, ft		5280			
Lane	Width, ft	12		Shoulder Width, ft	t	6			
Spee	ed Limit, mi/h	50		Access Point Density, pts/mi		4.0			
Dei	mand and Capacity								
Dire	ctional Demand Flow Rate, veh/h	719		Opposing Deman	d Flow Rate, veh/h	-			
Peak	Hour Factor	0.96		Total Trucks, %		2.00			
Segr	ment Capacity, veh/h	1700	700 Demand/Capacity (D/C)		(D/C)	0.42			
Int	ermediate Results								
Segr	ment Vertical Class	1		Free-Flow Speed, mi/h		55.9			
Spee	ed Slope Coefficient	3.59176		Speed Power Coefficient		0.41674			
PF S	lope Coefficient	-1.32959		PF Power Coefficient		0.74990			
In Pa	assing Lane Effective Length?	No		Total Segment Density, veh/mi/ln		8.8			
%lm	proved % Followers	0.0		% Improved Avg Speed		0.0			
Sul	osegment Data								
#	Segment Type	Length, ft	Radi	us, ft	Superelevation, %	Average Speed, mi/h			
1	Tangent	5280	-		-	53.0			
Vel	nicle Results								
Aver	age Speed, mi/h	53.0		Percent Followers, %		64.6			
Segr	ment Travel Time, minutes	1.13		Followers Density, followers/mi/ln		8.8			
Vehi	cle LOS	С							
	all & 2020 Halinsonia of Florida All Bioles	December 1		Wi 7.0		C			

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

		HCS7 Two-Lar	ne Highway R	eport	
Pro	oject Information				
Ana	lyst	KT	Date		12/4/2020
Age	ncy	W-Trans	Analysis Year		2020
Juris	sdiction	County of Napa	Time Period Analy	/zed	Saturday PM Baseline
Proj	ect Description	SR 29 – North of Lodi La (SB) – Saturday PM	ane Unit		United States Customary
		Se	gment 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	Access Point Dens	sity, pts/mi	10.0
De	mand and Capacity				
Dire	ectional Demand Flow Rate, veh/h	716	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)	0.42
Int	ermediate Results				
Seg	ment Vertical Class	1	Free-Flow Speed,	mi/h	54.4
Spe	ed Slope Coefficient	3.51046	Speed Power Coe	fficient	0.41674
PF S	ilope Coefficient	-1.34026	PF Power Coefficie	ent	0.74575
In P	assing Lane Effective Length?	No	Total Segment De	nsity, veh/mi/ln	9.0
%lm	proved % Followers	0.0	% Improved Avg	Speed	0.0
Su	bsegment Data				
#	Segment Type	Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h
1 Tangent 5280 -		-	-	51.6	
Vel	hicle 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
Veh	icle LOS	С			
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1_SR 29 - North of Lodi Lane (SB) - Saturday PM - Bxuf

HCS7 Two-Lar	ne Highway R	eport							
Project Information									
KT	Date		12/4/20						
W-Trans	Analysis Year		2020						
County of Napa	Time Period Analy	/zed	Saturday PM Baseline						
SR 29 – South of Lodi La (NB) – Saturday PM	ne Unit		United States Customary						
Segment 1									
Passing Constrained	Length, ft		5280						
12	Shoulder Width, f	t	6						
50	Access Point Dens	sity, pts/mi	4.0						
733	Opposing Deman	d Flow Rate, veh/h	-						
0.96	Total Trucks, %		2.00						
1700	Demand/Capacity	/ (D/C)	0.43						
1	Free-Flow Speed,	mi/h	55.9						
3.59176	Speed Power Coe	fficient	0.41674						
-1.32959	PF Power Coeffici	ent	0.74990						
No	Total Segment De	nsity, veh/mi/ln	9.0						
0.0	% Improved Avg	Speed	0.0						
Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h						
5280	-	-	53.0						
Average Speed, mi/h 53.0 Percent Followers, %									
1.13	Followers Density	, followers/mi/ln	9.0						
С									
	KT W-Trans County of Napa SR 29 - South of Lodi La (NB) - Saturday PM See	KT Date W-Trans Analysis Year County of Napa Time Period Analy SR 29 – South of Lodi Lane (NB) – Saturday PM Segment 1 Passing Constrained Length, ft 12 Shoulder Width, ft 50 Access Point Dens 733 Opposing Deman 0.96 Total Trucks, % 1700 Demand/Capacity 1 Free-Flow Speed, 3.59176 Speed Power Coe -1.32959 PF Power Coeffici No Total Segment De 0.0 % Improved Avg	W-Trans Analysis Year County of Napa Time Period Analyzed SR 29 – South of Lodi Lane (NB) – Saturday PM Segment 1 Passing Constrained Length, ft 12 Shoulder Width, ft 50 Access Point Density, pts/mi 733 Opposing Demand Flow Rate, veh/h 0.96 Total Trucks, % 1700 Demand/Capacity (D/C) 1 Free-Flow Speed, mi/h 3.59176 Speed Power Coefficient -1.32959 PF Power Coefficient No Total Segment Density, veh/mi/ln 0.0 % Improved Avg Speed Length, ft Radius, ft Superelevation, % 5280 53.0 Percent Followers, % 1.13 Followers Density, followers/mi/ln C						

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

Project Information					
Analyst	KT		Date		12/4/2020
Agency	W-Trans		Analysis Year		2020
Jurisdiction	County of Na	ра	Time Period Analy	zed	Saturday PM Baseline
Project Description	SR 29 – South (SB) – Saturda	n of Lodi Lane ay PM	Unit		United States Customary
		Segn	nent 1		
Vehicle Inputs					
Segment Type	Passing Cons	trained	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 Capacit	у				
Directional Demand Flow Rate	e, veh/h 729		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)	0.43
Intermediate Results	·				
Segment Vertical Class	1		Free-Flow Speed,	mi/h	54.4
Speed Slope Coefficient	3.51046		Speed Power Coe	fficient	0.41674
PF Slope Coefficient	-1.34026		PF Power Coefficie	ent	0.74575
In Passing Lane Effective Leng	th? 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	-		-	51.5
Vehicle Results					
Average Speed, mi/h	51.5		Percent Followers	, %	65.3
Segment Travel Time, minutes	1.16		Followers Density,	followers/mi/ln	9.2

HCS7 Two-Lane Highway Report

	HCS7 Two-La	ne Highway	Report	
Project Information				
Analyst	KT	Date		12/4/2020
Agency	W-Trans	Analysis Year		2020
Jurisdiction	County of Napa	Time Period An	alyzed	Saturday PM Baseline
Project Description	Lodi Ln – West of Projec Driveway (EB) – Saturda PM			United States Customary
	Se	gment 1		
Vehicle Inputs				
Segment Type	Passing Constrained	Length, ft		5280
Lane Width, ft	14	Shoulder Width	n, ft	0
Speed Limit, mi/h	45	Access Point De	ensity, pts/mi	11.0
Demand and Capacity				
Directional Demand Flow Rate, veh/h	68	Opposing Dem	and Flow Rate, veh/h	-
Peak Hour Factor	0.96	Total Trucks, %		2.00
Segment Capacity, veh/h	1700	Demand/Capac	ity (D/C)	0.04
Intermediate Results				
Segment Vertical Class	1	Free-Flow Spee	d, mi/h	45.5
Speed Slope Coefficient	3.02537	Speed Power C	oefficient	0.41674
PF Slope Coefficient	-1.38653	PF Power Coeff	icient	0.71808
In Passing Lane Effective Length?	No	Total Segment	Density, veh/mi/ln	0.3
%Improved % Followers	0.0	% Improved Av	g Speed	0.0
Subsegment Data				
# Segment Type	Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h
1 Tangent	5280	-	-	45.5
Vehicle Results				
Average Speed, mi/h	45.5	Percent Followe	ers, %	18.2
Segment Travel Time, minutes	1.32	Followers Dens	ity, followers/mi/ln	0.3
Vehicle LOS	А			

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3_Lodi Ln - West of Project Driveway (EB) - Saturday PM - B.xuf

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Segment Travel Time, minutes

1.31

Followers Density, followers/mi/In

0.3

Vehicle LOS

A

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

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Radius, ft

HCS7 Two-Lane Highway Report

Segment 1

Length, ft

Shoulder Width, ft

Total Trucks, %

Demand/Capacity (D/C)

Free-Flow Speed, mi/h

PF Power Coefficient

% Improved Avg Speed

Percent Followers, %

Speed Power Coefficient

Total Segment Density, veh/mi/ln

Superelevation, %

Access Point Density, pts/mi

Opposing Demand Flow Rate, veh/h

Date

Analysis Year

Time Period Analyzed

12/4/2020

Saturday PM Baseline

United States Customary

2020

5280

10.0

2.00

0.04

45.7

0.41674

0.71894

Average Speed, mi/h

0.3

0.0

45.7

17.9

КТ

PM

14

45

67

0.96

1700

3.03892

No

0.0

-1.38571

Length, ft

5280

45.7

W-Trans

County of Napa

Lodi Ln – West of Project Driveway (WB) – Saturday

Passing Constrained

Project Information

Analyst

Agency

Jurisdiction

Project Description

Vehicle Inputs

Segment Type

Lane Width, ft

Speed Limit, mi/h

Peak Hour Factor

Segment Capacity, veh/h

Segment Vertical Class

Speed Slope Coefficient

%Improved % Followers

Segment Type

Tangent

Vehicle Results

Average Speed, mi/h

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PF Slope Coefficient

Intermediate Results

In Passing Lane Effective Length?

Demand and Capacity

Directional Demand Flow Rate, veh/h

	HCS7 Two-	Lane	Highway	Report	
Project Information					
Analyst	KT		Date		12/4/2020
Agency	W-Trans		Analysis Year		2020
Jurisdiction	County of Napa		Time Period A	nalyzed	Saturday PM Baseline
Project Description	Lodi Ln – East of Pro Driveway (EB) – Satu PM		Unit		United States Customary
		Segn	nent 1		
Vehicle Inputs					
Segment Type	Passing Constrained	d	Length, ft		5280
Lane Width, ft	14		Shoulder Widt	h, ft	0
Speed Limit, mi/h	45		Access Point D	ensity, pts/mi	0.0
Demand and Capacity					
Directional Demand Flow Rate, veh/h	56		Opposing Den	nand Flow Rate, veh/h	-
Peak Hour Factor	0.91		Total Trucks, %	1	3.00
Segment Capacity, veh/h	1700		Demand/Capa	city (D/C)	0.03
Intermediate Results					
Segment Vertical Class	1		Free-Flow Spe	ed, mi/h	48.2
Speed Slope Coefficient	3.17262		Speed Power (Coefficient	0.41674
PF Slope Coefficient	-1.37591		PF Power Coef	ficient	0.72726
In Passing Lane Effective Length?	No		Total Segment	Density, veh/mi/ln	0.2
%Improved % Followers	0.0		% Improved A	vg 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 Follow	ers, %	15.6
Segment Travel Time, minutes	1.24		Followers Den	sity, followers/mi/ln	0.2
Vehicle LOS	А				

Vehicle LOS

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

`	ject Information					
Ana	lyst	KT		Date		12/4/20
Age	ncy	W-Trans	A	Analysis Year		2020
Juris	diction	County of Napa	Т	Time Period Analy	zed	Saturday PM Baseline
Proj	ect Description	Lodi Ln – East of Project Driveway (WB) – Saturd PM		Unit		United States Customar
		Se	egme	ent 1		
Vel	hicle Inputs					
Seg	ment Type	Passing Constrained	L	Length, ft		5280
Lane	e Width, ft	14	5	Shoulder Width, ft	:	0
Spe	ed Limit, mi/h	45	A	Access Point Dens	ity, pts/mi	0.0
De	mand and Capacity					
Dire	ctional Demand Flow Rate, veh/h	75		Opposing Demand	d Flow Rate, veh/h	-
Peal	Hour Factor	0.91	Т	Total Trucks, %		3.00
Seg	ment Capacity, veh/h	1700		Demand/Capacity	(D/C)	0.04
Int	ermediate Results					
Seg	ment Vertical Class	1	F	Free-Flow Speed,	mi/h	48.2
Spe	ed Slope Coefficient	3.17262	5	Speed Power Coef	ficient	0.41674
PF S	lope Coefficient	-1.37591	F	PF Power Coefficie	ent	0.72726
In P	assing Lane Effective Length?	No	Т	Total Segment De	nsity, veh/mi/ln	0.3
%lm	proved % Followers	0.0	9	% Improved Avg S	peed	0.0
Sul	bsegment Data					
#	Segment Type	Length, ft	Radiu	ıs, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	5280	-		-	48.2
Vel	hicle Results					
Ave	rage Speed, mi/h	48.2	F	Percent Followers,	%	18.8
Seg	ment Travel Time, minutes	1.24	F	Followers Density,	followers/mi/ln	0.3
Vehi	icle LOS	А				

Project Information				
Analyst	T _{KT}	Date		12/4/20
Agency	W-Trans	Analysis Year		2020
Jurisdiction	County of Napa	Time Period		Saturday PM Baseline
Project Description	Silverado Trail – North o Lodi Lane (NB) – Saturd PM	of Unit	niaiyzeu	United States Customary
	Se	gment 1		
Vehicle Inputs				
Segment Type	Passing Constrained	Length, ft		5280
Lane Width, ft	12	Shoulder Wid	lth, ft	6
Speed Limit, mi/h	45	Access Point	Density, pts/mi	5.0
Demand and Capacity				
Directional Demand Flow Rate, veh/h	343	Opposing De	mand Flow Rate, veh/h	-
Peak Hour Factor	0.91	Total Trucks,	%	3.00
Segment Capacity, veh/h	1700	Demand/Cap	acity (D/C)	0.20
Intermediate Results				
Segment Vertical Class	1	Free-Flow Sp	eed, mi/h	50.0
Speed Slope Coefficient	3.26747	Speed Power	Coefficient	0.41674
PF Slope Coefficient	-1.36740	PF Power Coe	efficient	0.73276
In Passing Lane Effective Length?	No	Total Segmen	nt Density, veh/mi/ln	3.3
%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	-	-	48.1
Vehicle Results			,	
Average Speed, mi/h	48.1	Percent Follo	wers, %	46.4
Segment Travel Time, minutes	1.25	Followers De	nsity, followers/mi/ln	3.3
Vehicle LOS	В			

Ana	lyst	KT		Date		12/4/20
Age	ency	W-Trans		Analysis Year		2020
Juris	sdiction	County of Napa		Time Period Analy	zed	Saturday PM Baseline
Proj	ect Description	Silverado Trail – No Lodi Lane (SB) – Sai PM		Unit		United States Customa
			Segn	nent 1		
Vel	hicle Inputs					
Seg	ment Type	Passing Constrained	d	Length, ft		5280
Lane	e Width, ft	12		Shoulder Width, fi	t	6
Spe	ed Limit, mi/h	45		Access Point Dens	ity, 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		Speed Power Coe	fficient	0.41674
PF S	Slope 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	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	-		-	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
Vehi	icle LOS	В				

HCS7 Two-Lane Highway Report

Project Information

Project Information				
Analyst	KT	Date		12/4/20
Agency	W-Trans	Analysis Year		2020
Jurisdiction	County of Napa	Time Period Analy	yzed	Saturday PM Baseline
Project Description	Silverado Trail – South o Lodi Lane (NB) – Saturda PM			United States Customar
	Se	gment 1		
Vehicle Inputs				
Segment Type	Passing Constrained	Length, ft		5280
Lane Width, ft	12	Shoulder Width, f	ft	6
Speed Limit, mi/h	45	Access Point Den	sity, pts/mi	5.0
Demand and Capacity				
Directional Demand Flow Rate, veh/h	364	Opposing Deman	nd Flow Rate, veh/h	-
Peak Hour Factor	0.91	Total Trucks, %		3.00
Segment Capacity, veh/h	1700	Demand/Capacity	y (D/C)	0.21
Intermediate Results				
Segment Vertical Class	1	Free-Flow Speed,	mi/h	50.0
Speed Slope Coefficient	3.26747	Speed Power Coe	efficient	0.41674
PF Slope Coefficient	-1.36740	PF Power Coeffici	ent	0.73276
In Passing Lane Effective Length?	No	Total Segment De	ensity, veh/mi/ln	3.6
%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	-	-	48.1
Vehicle Results				
Average Speed, mi/h	48.1	Percent Followers	5, %	47.9
Segment Travel Time, minutes	1.25	Followers Density	, followers/mi/ln	3.6
Vehicle LOS	В			

,					
Agency	W-Trans		Analysis Year		2020
Jurisdiction	County of Napa		Time Period Analy	/zed	Saturday PM Baseline
Project Description	Silverado Trail – Lodi Lane (SB) – PM		Unit		United States Customary
		Segr	ment 1		
Vehicle Inputs					
Segment Type	Passing Constrai	ined	Length, ft		5280
Lane Width, ft	12		Shoulder Width, f	t	6
Speed Limit, mi/h	45		Access Point Dens	sity, pts/mi	1.0
Demand and Capacity					
Directional Demand Flow Rate, veh/	h 316		Opposing Deman	d Flow Rate, veh/h	-
Peak Hour Factor	0.91		Total Trucks, %		3.00
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	3.32167		Speed Power Coe	fficient	0.41674
PF Slope Coefficient	-1.36197		PF Power Coefficie	ent	0.73580
In Passing Lane Effective Length?	No		Total Segment De	nsity, veh/mi/ln	2.8
%Improved % Followers	0.0		% Improved Avg	Speed	0.0
Subsegment Data					
# Segment Type	Length, ft	Ra	dius, ft	Superelevation, %	Average Speed, mi/h
1 Tangent	5280	-		-	49.2
Vehicle Results					
Average Speed, mi/h	49.2		Percent Followers	, %	44.2
Segment Travel Time, minutes	1.22		Followers Density	, followers/mi/ln	2.8
Vehicle LOS	В				

HCS7 Two-Lane Highway Report

Date

12/4/20

KT

Project Information

Analyst

		HCS7 Two-Lai	ne F	Highway Re	eport	
Pro	ject Information					
Anal	yst	KT	[Date		12/4/20
Ager	ncy	W-Trans	Δ.	Analysis Year		2020
Juris	diction	County of Napa	Т	Time Period Analy	zed	Friday PM Future
Proje	ect Description	SR 29 – North of Lodi La (NB) – Friday PM	ane L	Unit		United States Customary
		Se	gme	ent 1		
Veł	nicle Inputs					
Segr	ment Type	Passing Constrained	L	Length, ft		5280
Lane	Width, ft	12	S	Shoulder Width, ft	t	6
Spee	ed Limit, mi/h	50	Δ.	Access Point Dens	ity, pts/mi	4.0
Dei	mand and Capacity					
Dire	ctional Demand Flow Rate, veh/h	1015		Opposing Deman	d Flow Rate, veh/h	-
Peak	Hour Factor	1.00	Т	Total Trucks, %		4.00
Segr	ment Capacity, veh/h	1700	С	Demand/Capacity	(D/C)	0.60
Inte	ermediate Results					
Segr	ment Vertical Class	1	F	Free-Flow Speed,	mi/h	55.9
Spee	ed Slope Coefficient	3.58815	S	Speed Power Coef	fficient	0.41674
PF S	lope Coefficient	-1.32983	P	PF Power Coefficie	ent	0.75000
In Pa	assing Lane Effective Length?	No	Т	Total Segment De	nsity, veh/mi/ln	14.3
%lm	proved % Followers	0.0	9	% Improved Avg S	Speed	0.0
Sub	osegment Data					
#	Segment Type	Length, ft	Radiu	ıs, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	5280	-		-	52.4
Vel	nicle Results					
Aver	age Speed, mi/h	52.4	P	Percent Followers,	%	73.9
Segr	ment Travel Time, minutes	1.14	F	Followers Density,	followers/mi/ln	14.3
Vehi	cle LOS	D				
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1_SR 29 - North of Lodi Lane (NB) - Friday PM - F.xuf

Project Information КТ 12/4/2020 Analyst Date W-Trans 2020 Agency Analysis Year Jurisdiction County of Napa Time Period Analyzed Friday PM Future Project Description SR 29 – North of Lodi Lane Unit (SB) – Friday PM United States Customary Segment 1 **Vehicle Inputs** Length, ft 5280 Segment Type Passing Constrained Lane Width, ft 12 Shoulder Width, ft Speed Limit, mi/h 50 Access Point Density, pts/mi 10.0 Demand and Capacity 932 Directional Demand Flow Rate, veh/h Opposing Demand Flow Rate, veh/h 1.00 Peak Hour Factor Total Trucks, % 4.00 1700 0.55 Segment Capacity, veh/h Demand/Capacity (D/C) **Intermediate Results** Segment Vertical Class Free-Flow Speed, mi/h 54.4 3.50685 Speed Slope Coefficient Speed Power Coefficient 0.41674 PF Slope Coefficient -1.34047 PF Power Coefficient 0.74585 In Passing Lane Effective Length? No Total Segment Density, veh/mi/ln 13.1 %Improved % Followers 0.0 % Improved Avg Speed 0.0 **Subsegment Data** Length, ft Radius, ft Average Speed, mi/h Segment Type Superelevation, % Tangent 5280 51.1 **Vehicle Results** Average Speed, mi/h 51.1 Percent Followers, % 72.0 1.17 13.1 Segment Travel Time, minutes Followers Density, followers/mi/ln Vehicle LOS Copyright © 2020 University of Florida. All Rights Reserved. HCSTMI Two-Lane Version 7.8 Generated: 12/06/2020 20:08:53 1_SR 29 - North of Lodi Lane (SB) - Friday PM - F.xuf

HCS7 Two-Lane Highway Report

		HCS7 Two-La	ne	Highway Re	eport	
Pro	ject Information					
Anal	yst	KT		Date		12/4/2020
Agei	ncy	W-Trans		Analysis Year		2020
Juris	diction	County of Napa		Time Period Analy	zed	Friday PM Future
Proje	ect Description	SR 29 – South of Lodi La (NB) – Friday PM	ane	Unit		United States Customary
		Se	gm	ent 1		
Vel	nicle Inputs					
Segr	ment Type	Passing Constrained		Length, ft		5280
Lane	Width, ft	12		Shoulder Width, ft	t	6
Spee	ed Limit, mi/h	50		Access Point Dens	ity, pts/mi	4.0
Dei	mand and Capacity					
Dire	ctional Demand Flow Rate, veh/h	1018		Opposing Deman	d Flow Rate, veh/h	-
Peak	Hour Factor	1.00		Total Trucks, %		4.00
Segr	ment Capacity, veh/h	1700		Demand/Capacity	(D/C)	0.60
Int	ermediate Results					
Segr	ment Vertical Class	1		Free-Flow Speed,	mi/h	55.9
Spee	ed Slope Coefficient	3.58815		Speed Power Coef	fficient	0.41674
PF S	lope Coefficient	-1.32983		PF Power Coefficie	ent	0.75000
In Pa	assing Lane Effective Length?	No		Total Segment De	nsity, veh/mi/ln	14.4
%lm	proved % Followers	0.0		% Improved Avg S	Speed	0.0
Sul	osegment Data					
#	Segment Type	Length, ft	Radi	ius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	5280	-		-	52.4
Vel	nicle Results					
Aver	age Speed, mi/h	52.4		Percent Followers,	. %	74.0
Segr	ment Travel Time, minutes	1.14		Followers Density,	followers/mi/ln	14.4
Vehi	cle LOS	D				
	- bar @ 2020 Hadrande - CEL-dal-All Bisha	December 1		\/ : 7.0		C

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2_SR 29 — South of Lodi Lane (NB) — Friday PM — F.xuf

		HCS7 Two-Lar	ne Highway R	eport	
Pro	oject Information				
Ana	lyst	KT	Date		12/4/2020
Age	ency	W-Trans	Analysis Year		2020
Juris	sdiction	County of Napa	Time Period Analy	/zed	Friday PM Future
Proj	ect Description	SR 29 – South of Lodi La (SB) – Friday PM	ane Unit		United States Customary
		Se	gment 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	50	Access Point Den	sity, pts/mi	10.0
De	mand and Capacity				
Dire	ectional Demand Flow Rate, veh/h	1002	Opposing Deman	d Flow Rate, veh/h	-
Peal	k Hour Factor	1.00	Total Trucks, %		4.00
Seg	ment Capacity, veh/h	1700	Demand/Capacity	/ (D/C)	0.59
Int	ermediate Results				
Seg	ment Vertical Class	1	Free-Flow Speed,	mi/h	54.4
Spe	ed Slope Coefficient	3.50685	Speed Power Coe	fficient	0.41674
PF S	Slope Coefficient	-1.34047	PF Power Coeffici	ent	0.74585
In P	assing Lane Effective Length?	No	Total Segment De	ensity, veh/mi/ln	14.5
%In	proved % Followers	0.0	% Improved Avg	Speed	0.0
Su	bsegment Data				
#	Segment Type	Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	5280	-	-	51.0
Ve	hicle Results				
Ave	rage Speed, mi/h	51.0	Percent Followers	, %	73.9
Seg	ment Travel Time, minutes	1.18	Followers Density	, followers/mi/ln	14.5
Veh	icle LOS	D			
opyr	right © 2020 University of Florida. All Righ	ts Reserved HCSTIM To	wo-Lane Version 7.8		Generated: 12/06/2020 21:02:3

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2_SR 29 = South of Lodi Lane (SB) = Friday PM = F.xuf

of Napa - West of Projection	egm	Date Analysis Year Time Period Analy Unit Length, ft Shoulder Width, ft Access Point Dens Opposing Deman-	t	12/4/2020 2020 Friday PM Future United States Customary 5280 0 11.0
of Napa – West of Project ay (EB) – Friday F	egm	Analysis Year Time Period Analy Unit Length, ft Shoulder Width, ft Access Point Dens Opposing Demand	t sity, pts/mi	2020 Friday PM Future United States Customary 5280 0 11.0
of Napa – West of Project ay (EB) – Friday F	egm	Time Period Analy Unit Length, ft Shoulder Width, ft Access Point Dens Opposing Demand	t sity, pts/mi	Friday PM Future United States Customary 5280 0 11.0
– West of Proje ay (EB) – Friday F	egm	Unit Length, ft Shoulder Width, ft Access Point Dens Opposing Deman	t sity, pts/mi	United States Customary 5280 0 11.0
ay (EB) – Friday F	egm	Length, ft Shoulder Width, ft Access Point Dens Opposing Deman	sity, pts/mi	5280 0 11.0
		Length, ft Shoulder Width, ft Access Point Dens Opposing Deman	sity, pts/mi	11.0
Constrained		Shoulder Width, fi Access Point Dens Opposing Demand	sity, pts/mi	11.0
Constrained		Shoulder Width, fi Access Point Dens Opposing Demand	sity, pts/mi	11.0
		Access Point Dens	sity, pts/mi	11.0
		Opposing Demand		-
			d Flow Rate, veh/h	
			d Flow Rate, veh/h	
	-	Total Trucks, %		4.00
				7.00
		Demand/Capacity	(D/C)	0.04
	П	Free-Flow Speed,	mi/h	45.4
5		Speed Power Coef	fficient	0.41674
19		PF Power Coefficie	ent	0.71813
		Total Segment De	nsity, veh/mi/ln	0.3
		% Improved Avg S	Speed	0.0
, ft	Radii	us, ft	Superelevation, %	Average Speed, mi/h
	-		-	45.4
		Percent Followers,	, %	18.2
		Followers Density,	, followers/mi/ln	0.3
	ft	ft Radi	ft Radius, ft -	% Improved Avg Speed ### Radius, ft Superelevation, % Percent Followers, % Followers Density, followers/mi/ln

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

		HCS7 Two-La	ne Highway F	Report	
Pro	oject Information				
Ana	alyst	KT	Date		12/4/2020
Age	ency	W-Trans	Analysis Year		2020
Juri	sdiction	County of Napa	Time Period Ana	lyzed	Friday PM Future
Proj	ject Description	Lodi Ln – West of Project Driveway (WB) – Friday			United States Customary
		Se	gment 1		
Ve	hicle Inputs				
Seg	ment Type	Passing Constrained	Length, ft		5280
Lan	e Width, ft	14	Shoulder Width,	ft	0
Speed Limit, mi/h		45	Access Point Der	nsity, pts/mi	10.0
De	emand and Capacity				
Dire	ectional Demand Flow Rate, veh/h	135	Opposing Dema	nd Flow Rate, veh/h	-
Pea	k Hour Factor	1.00	Total Trucks, %		4.00
Seg	ment Capacity, veh/h	1700	Demand/Capaci	ty (D/C)	0.08
Int	termediate Results				
Seg	ment Vertical Class	1	Free-Flow Speed	l, mi/h	45.7
Spe	ed Slope Coefficient	3.03531	Speed Power Co	efficient	0.41674
PF S	Slope Coefficient	-1.38568	PF Power Coeffic	ient	0.71899
In P	Passing Lane Effective Length?	No	Total Segment D	ensity, veh/mi/ln	0.8
%In	nproved % Followers	0.0	% Improved Avg	Speed	0.0
Su	bsegment Data	·			
#	Segment Type	Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	5280	-	-	44.9
Ve	hicle Results				
Ave	erage Speed, mi/h	44.9	Percent Follower	rs, %	28.0
	ment Travel Time, minutes	1.34	Followers Densit	y, followers/mi/ln	0.8
Veh	nicle LOS	A			
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3_Lodi Ln - West of Project Driveway (WB) - Friday PM - F.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 Future
Proj	ect Description	Lodi Ln – East of Project Driveway (EB) – Friday F		Unit		United States Customary
		Se	gm	nent 1		
Vel	hicle Inputs					
Seg	ment Type	Passing Constrained		Length, ft		5280
Lane	Width, ft	14		Shoulder Width, f	t	0
Spe	ed Limit, mi/h	45		Access Point Dens	ity, pts/mi	11.0
De	mand and Capacity					
Dire	ctional Demand Flow Rate, veh/h	86		Opposing Deman	d Flow Rate, veh/h	-
Peal	Hour Factor	1.00		Total Trucks, %		2.00
Seg	ment Capacity, veh/h	1700		Demand/Capacity	(D/C)	0.05
Int	ermediate Results					
Segi	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 Speed		0.0
Sul	bsegment Data					
#	Segment Type	Length, ft	Radi	ius, 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				
		December 1				C

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

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		HCS7 Two-Lai	ne l	Highway Re	eport	
Pro	ject Information					
Anal	yst	KT		Date		12/4/20
Age	ncy	W-Trans		Analysis Year		2020
Juris	diction	County of Napa	1	Time Period Analy	zed	Friday PM Future
Proje	ect Description	Lodi Ln – East of Project Driveway (WB) – Friday		Unit		United States Customary
		Se	gm	ent 1		
Vel	nicle Inputs					
Segr	ment Type	Passing Constrained	Ti	Length, ft		5280
Lane	Width, ft	14	:	Shoulder Width, f	t	0
Spe	ed Limit, mi/h	45		Access Point Density, pts/mi		0.0
De	mand and Capacity					
Dire	ctional Demand Flow Rate, veh/h	125	- 1	Opposing Demand Flow Rate, veh/h		-
Peak	Hour Factor	1.00	1	Total Trucks, %		2.00
Segr	ment Capacity, veh/h	1700		Demand/Capacity	(D/C)	0.07
Int	ermediate Results					
Segr	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 Density, veh/mi/ln		0.7
%lm	proved % Followers	0.0		% Improved Avg Speed		0.0
Sul	osegment Data					
#	Segment Type	Length, ft	Radiu	us, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	5280	-		-	47.6
Vel	nicle Results					·
Aver	age Speed, mi/h	47.6		Percent Followers,	%	26.2
Segr	ment Travel Time, minutes	1.26		Followers Density,	followers/mi/ln	0.7
Vehi	cle LOS	А				
_	-ba @ 2020 Hairmain of Florida All Biolan	December 1166ma T				C

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

		HCS7 Two-La	ne	Highway Re	eport				
Pro	Project Information								
Anal	yst	КТ		Date		12/4/20			
Agei	ncy	W-Trans		Analysis Year		2020			
Juris	diction	County of Napa		Time Period Analy	zed	Friday PM Future			
Proje	ect Description	Silverado Trail – North o Lodi Lane (NB) – Friday		Unit		United States Customary			
		Se	gm	ent 1					
Vel	nicle Inputs								
Segr	ment Type	Passing Constrained		Length, ft		5280			
Lane	Width, ft	12		Shoulder Width, ft	t	6			
Speed Limit, mi/h 45		45 Ac		Access Point Density, pts/mi		5.0			
Dei	mand and Capacity								
Dire	ctional 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	(D/C)	0.26			
Int	ermediate Results								
Segr	ment 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	Radi	us, ft	Superelevation, %	Average Speed, mi/h			
1	Tangent	5280	-		-	47.9			
Vel	nicle Results								
Aver	age Speed, mi/h	47.9	47.9		%	53.0			
Segr	ment Travel Time, minutes	1.25		Followers Density, followers/mi/ln		4.9			
Vehi	cle LOS	В							
	all & 2020 Halinsonia of Florida All Bioles	December 1		Wi 7.0		C			

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

		HCS7 Two-La	ne Hia	hway Re	eport	
•		11037 1110 24		invay ra		
Pro	oject Information					
Ana	lyst	KT	Date			12/4/20
Age	ncy	W-Trans	Analy	sis Year		2020
Juris	sdiction	County of Napa	Time	Period Analy	zed	Friday PM Future
Proj	ect Description	Silverado Trail – North o Lodi Lane (SB) – Friday				United States Customary
		Se	gment	1		
Vel	hicle Inputs					
Seg	ment Type	Passing Constrained	Lengt	h, ft		5280
Lane	e Width, ft	12	Shou	lder Width, f	t	6
Speed Limit, mi/h		45	Acces	Access Point Density, pts/mi		1.0
De	mand and Capacity					
Dire	ectional Demand Flow Rate, veh/h	418	Орро	Opposing Demand Flow Rate, veh/h		-
Peal	k Hour Factor	1.00	Total	Total Trucks, %		2.00
Seg	ment Capacity, veh/h	1700	Dema	nd/Capacity	(D/C)	0.25
Int	ermediate Results					
Seg	ment Vertical Class	1	Free-	Free-Flow Speed, mi/h		51.0
Spe	ed Slope Coefficient	3.32347	Spee	Speed Power Coefficient		0.41674
PF S	ilope Coefficient	-1.36191	PF Pc	PF Power Coefficient		0.73576
In P	assing Lane Effective Length?	No	Total	Total Segment Density, veh/mi/ln		4.4
%lm	proved % Followers	0.0	% Im	% Improved Avg Speed		0.0
Su	bsegment Data					
#	Segment Type	Length, ft	Radius, ft		Superelevation, %	Average Speed, mi/h
1	Tangent	5280	-		-	48.9
Vel	hicle Results					
Ave	rage Speed, mi/h	48.9	Perce	nt Followers	, %	51.2
Seg	ment Travel Time, minutes	1.23	Follo	wers Density	, followers/mi/ln	4.4
Veh	icle LOS	В				
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5_Silverado Trail - North of Lodi Lane (SB) - Friday PM - F.xuf

		HCS7 Two-La	ane	Highway Re	eport	
Pro	ject Information					
Anal	yst	KT		Date		12/4/20
Ager	ncy	W-Trans		Analysis Year		2020
Juris	diction	County of Napa		Time Period Analy	zed	Friday PM Future
Proje	ect Description	Silverado Trail – South Lodi Lane (NB) – Frida		Unit		United States Customary
		S	egn	nent 1		
Veh	nicle Inputs					
Segr	nent Type	Passing Constrained		Length, ft		5280
Lane	Width, ft	12		Shoulder Width, f	t	6
Speed Limit, mi/h		45		Access Point Density, pts/mi		5.0
Der	nand and Capacity					
Direc	tional Demand Flow Rate, veh/h	480	480		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					
Segn	nent Vertical Class	1		Free-Flow Speed, mi/h		50.0
Spee	d Slope Coefficient	3.26927	3.26927		fficient	0.41674
PF SI	ope Coefficient	-1.36736		PF Power Coefficient		0.73272
In Pa	ssing Lane Effective Length?	No		Total Segment Density, veh/mi/ln		5.5
%lm	proved % Followers	0.0		% Improved Avg Speed		0.0
Suk	segment Data					
#	Segment Type	Length, ft	Rac	lius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	5280	-		-	47.8
Veh	nicle Results					
Aver	age Speed, mi/h	47.8		Percent Followers,	%	55.0
Segn	nent Travel Time, minutes	1.26		Followers Density,	followers/mi/ln	5.5
Vehic	cle LOS	С				
Vehicle LOS C			T.ue I	Followers Density, followers/mi/ln		5.5 Generated: 12/06/2020

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Generated: 12/06/2020 22:25:43 6_Silverado Trail - South of Lodi Lane (NB) - Friday PM - F.xuf

		HCS7 Two-Lar	ne Highway R	eport	
Pro	oject Information				
Ana	<u> </u>	KT	Date		12/4/20
Age	ncy	W-Trans	Analysis Year		2020
Juris	sdiction	County of Napa	Time Period Analy	/zed	Friday PM Future
Proj	ect Description	Silverado Trail – South o Lodi Lane (NB) – Friday			United States Customary
		Se	gment 1		
Vel	hicle Inputs				
Seg	ment Type	Passing Constrained	Length, ft		5280
Lane	e Width, ft	12	Shoulder Width, f	t	6
Speed Limit, mi/h 45		45	Access Point Den	sity, pts/mi	5.0
De	mand and Capacity				
Dire	ectional Demand Flow Rate, veh/h	414	Opposing Demar	d Flow Rate, veh/h	-
Peal	k Hour Factor	1.00	Total Trucks, %		2.00
Seg	ment Capacity, veh/h	1700	Demand/Capacity	/ (D/C)	0.24
Int	ermediate Results				
Seg	ment Vertical Class	1	Free-Flow Speed,	mi/h	50.0
Spe	ed Slope Coefficient	3.26927	Speed Power Coe	fficient	0.41674
PF S	ilope Coefficient	-1.36736	PF Power Coeffici	ent	0.73272
In P	assing Lane Effective Length?	No	Total Segment De	ensity, veh/mi/ln	4.4
%lm	proved % Followers	0.0	% Improved Avg	Speed	0.0
Su	bsegment Data				
#	Segment Type	Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	5280	-	-	48.0
Vel	hicle Results				
Ave	rage Speed, mi/h	48.0	Percent Followers	, %	51.2
Seg	ment Travel Time, minutes	1.25	Followers Density	, followers/mi/ln	4.4
Veh	icle LOS	В			
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6_Silverado Trail - South of Lodi Lane (NB) - Friday PM - F.xuf

Project Information								
KT	Date		12/4/20					
W-Trans	Analysis Year		2020					
County of Napa	Time Period A	nalyzed	Saturday PM Future					
SR 29 – North of Lodi L (NB) – Saturday PM	ane Unit		United States Customary					
Se	gment 1							
Passing Constrained	Length, ft		5280					
12	Shoulder Wid	th, ft	6					
50	Access Point I	Density, pts/mi	4.0					
1016	Opposing De	mand Flow Rate, veh/h	-					
1.00	Total Trucks, 9	%	2.00					
1700	Demand/Cap	acity (D/C)	0.60					
-								
1	Free-Flow Spe	eed, mi/h	55.9					
3.59176	Speed Power	Coefficient	0.41674					
-1.32959	PF Power Coe	fficient	0.74990					
No	Total Segmen	t Density, veh/mi/ln	14.3					
0.0	% Improved A	Avg Speed	0.0					
Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h					
5280	-	-	52.5					
52.5	Percent Follow	vers, %	74.0					
1.14	Followers Der	nsity, followers/mi/ln	14.3					
D								
	W-Trans County of Napa SR 29 – North of Lodi L (NB) – Saturday PM Se Passing Constrained 12 50 1016 1.00 1700 1 3.59176 -1.32959 No 0.0 Length, ft 5280 52.5 1.14 D	W-Trans Analysis Year County of Napa Time Period A SR 29 – North of Lodi Lane (NB) – Saturday PM Segment 1 Passing Constrained Length, ft 12 Shoulder Wid 50 Access Point I 1016 Opposing De 1.00 Total Trucks, 9 1700 Demand/Cap 1 Free-Flow Spr 3.59176 Speed Power -1.32959 PF Power Coe No Total Segmen 0.0 % Improved A Length, ft Radius, ft 5280 -	W-Trans Analysis Year County of Napa Time Period Analyzed SR 29 – North of Lodi Lane (NB) – Saturday PM Segment 1 Passing Constrained Length, ft 12 Shoulder Width, ft 50 Access Point Density, pts/mi 1016 Opposing Demand Flow Rate, veh/h 1.00 Total Trucks, % 1700 Demand/Capacity (D/C) 1 Free-Flow Speed, mi/h 3.59176 Speed Power Coefficient -1.32959 PF Power Coefficient -1.32959 PF Power Coefficient No Total Segment Density, veh/mi/In 0.0 % Improved Avg Speed Length, ft Radius, ft Superelevation, % 5280 52.5 Percent Followers, % 1.14 Followers Density, followers/mi/In D					

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

		HCS7 Two-La	ine	Highway Re	eport	
Pro	oject Information		_			
Ana	lyst	KT		Date		12/4/2020
Age	ncy	W-Trans		Analysis Year		2020
Juris	sdiction	County of Napa		Time Period Analy	zed	Saturday PM Future
Proj	ect Description	SR 29 – North of Lodi L (SB) – Saturday PM	ane	Unit		United States Customary
		Se	egn	nent 1		
Vel	hicle Inputs					
Seg	ment Type	Passing Constrained		Length, ft		5280
Lane	e Width, ft	12		Shoulder Width, f	t	6
Speed Limit, mi/h		50		Access Point Density, pts/mi		10.0
De	mand and Capacity					
Dire	ectional Demand Flow Rate, veh/h	978		Opposing Demand Flow Rate, veh/h		-
Peal	k Hour Factor	1.00		Total Trucks, %		2.00
Seg	ment Capacity, veh/h	1700		Demand/Capacity	(D/C)	0.58
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	ilope Coefficient	-1.34026		PF Power Coefficient		0.74575
In P	assing Lane Effective Length?	No		Total Segment Density, veh/mi/ln		14.0
%lm	proved % Followers	0.0		% Improved Avg Speed		0.0
Su	bsegment Data					
#	Segment Type	Length, ft	Rad	lius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	5280	-		-	51.1
Vel	hicle Results					
Ave	rage Speed, mi/h	51.1		Percent Followers	, %	73.2
Seg	ment Travel Time, minutes	1.17	1.17		followers/mi/ln	14.0
Veh	icle LOS	D				
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1_SR 29 - North of Lodi Lane (SB) - Saturday PM - F.xuf

HCS7 Two-Lar	ne Highway R	eport						
Project Information								
KT	Date		12/4/20					
W-Trans	Analysis Year		2020					
County of Napa	Time Period Anal	yzed	Saturday PM Future					
SR 29 – South of Lodi La (NB) – Saturday PM	nne Unit		United States Customary					
Se	gment 1							
Passing Constrained	Length, ft		5280					
12	Shoulder Width,	ft	6					
50	Access Point Der	sity, pts/mi	4.0					
1026	Opposing Dema	nd Flow Rate, veh/h	-					
1.00	Total Trucks, %		2.00					
1700	Demand/Capacit	y (D/C)	0.60					
-								
1	Free-Flow Speed	, mi/h	55.9					
3.59176	Speed Power Co	efficient	0.41674					
-1.32959	PF Power Coeffic	ient	0.74990					
No	Total Segment D	ensity, veh/mi/ln	14.5					
0.0	% Improved Avg	Speed	0.0					
Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h					
5280	-	-	52.5					
52.5	Percent Follower	s, %	74.2					
1.14	Followers Density	, followers/mi/ln	14.5					
D								
	KT W-Trans County of Napa SR 29 - South of Lodi La (NB) - Saturday PM See	KT Date W-Trans Analysis Year County of Napa Time Period Anal SR 29 – South of Lodi Lane (NB) – Saturday PM Segment 1 Passing Constrained Length, ft 12 Shoulder Width, 50 Access Point Den 1026 Opposing Deman 1.00 Total Trucks, % 1700 Demand/Capacit 1 Free-Flow Speed, 3.59176 Speed Power Cod -1.32959 PF Power Coeffic No Total Segment D 0.0 % Improved Avg Length, ft Radius, ft 5280 - 52.5 Percent Followers 1.14 Followers Density D	W-Trans Analysis Year County of Napa Time Period Analyzed SR 29 – South of Lodi Lane (NB) – Saturday PM Segment 1 Passing Constrained Length, ft 12 Shoulder Width, ft 50 Access Point Density, pts/mi 1026 Opposing Demand Flow Rate, veh/h 1.00 Total Trucks, % 1700 Demand/Capacity (D/C) 1 Free-Flow Speed, mi/h 3.59176 Speed Power Coefficient -1.32959 PF Power Coefficient -1.32959 PF Power Coefficient 0.0 % Improved Avg Speed Length, ft Radius, ft Superelevation, % 5280 52.5 Percent Followers, % 1.14 Followers Density, followers/mi/In D					

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

	HCS7 Two	-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	Saturday PM Future
Project Description	SR 29 – South of L (SB) – Saturday PN		Unit		United States Customary
		Segn	nent 1		
Vehicle Inputs					
Segment Type	Passing Constraine	ed	Length, ft		5280
Lane Width, ft	12		Shoulder Width, f	t	6
Speed Limit, mi/h	50	50		sity, pts/mi	10.0
Demand and Capacity					
Directional Demand Flow Rate, veh,	/h 991	991		d Flow Rate, veh/h	-
Peak Hour Factor	1.00		Total Trucks, %		2.00
Segment Capacity, veh/h	1700	1700		(D/C)	0.58
Intermediate Results					
Segment Vertical Class	1	1		mi/h	54.4
Speed Slope Coefficient	3.51046	3.51046		fficient	0.41674
PF Slope Coefficient	-1.34026		PF Power Coefficient		0.74575
In Passing Lane Effective Length?	No		Total Segment Density, veh/mi/ln		14.3
%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	-		-	51.1
Vehicle Results					
Average Speed, mi/h	51.1		Percent Followers	, %	73.6
Segment Travel Time, minutes	1.17	1.17		followers/mi/ln	14.3
Vehicle LOS	D				

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

		HCS7 Two-La		10.00		
Pro	oject Information					
Ana	lyst	KT	Date		12/4/2020	
Age	ncy	W-Trans	Analysis Year		2020	
Juris	sdiction	County of Napa	Time Period A	Analyzed	Saturday PM Future	
		Lodi Ln – West of Proje Driveway (EB) – Saturda PM			United States Customar	
		Se	gment 1			
Vel	hicle Inputs					
Seg	ment Type	Passing Constrained	Length, ft		5280	
Lane	e Width, ft	14	Shoulder Wic	lth, ft	0	
Speed Limit, mi/h		45	Access Point	Density, pts/mi	11.0	
De	mand and Capacity					
Dire	ectional Demand Flow Rate, veh/h	54	Opposing De	mand Flow Rate, veh/h	-	
Peal	k Hour Factor	1.00	Total Trucks, S	%	2.00	
Seg	ment Capacity, veh/h	1700	Demand/Cap	acity (D/C)	0.03	
Int	ermediate Results					
Segi	ment Vertical Class	1	Free-Flow Sp	eed, mi/h	45.5	
Spe	ed Slope Coefficient	3.02537	Speed Power	Coefficient	0.41674	
PF S	Slope Coefficient	-1.38653	PF Power Coe	efficient	0.71808	
In Pa	assing Lane Effective Length?	No	Total Segmen	nt Density, veh/mi/ln	0.2	
%lm	nproved % Followers	0.0	% Improved	Avg Speed	0.0	
Sul	bsegment Data					
#	Segment Type	Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h	
1	Tangent	5280	-	-	45.5	
Vel	hicle Results					
Ave	rage Speed, mi/h	45.5	Percent Follo	wers, %	15.7	
Segi	ment Travel Time, minutes	1.32	Followers De	nsity, followers/mi/ln	0.2	
Vehi	icle LOS	A				

d.	HCSTMI Two-Lane Version 7.8	Generated: 12/06/2020 21:16:50	vo-Lane Version 7.8	
odi I	n – West of Project Driveway (FB) – Saturday PM – F xuf		Driveway (FB) - Saturday PM - F xuf	

Duning the Information				
Project Information				
Analyst	KT	Date		12/4/2020
Agency	W-Trans	Analysis Year	•	2020
Jurisdiction	County of Napa	Time Period	Analyzed	Saturday PM Future
Project Description	Lodi Ln – West of Proj Driveway (WB) – Satur PM			United States Customar
	S	egment 1		
Vehicle Inputs				
Segment Type	Passing Constrained	Length, ft		5280
Lane Width, ft	14	Shoulder Wi	dth, ft	0
Speed Limit, mi/h	45	Access Point	Density, pts/mi	10.0
Demand and Capacity				
Directional Demand Flow Rate, veh/h	57	Opposing De	emand Flow Rate, veh/h	-
Peak Hour Factor	1.00	Total Trucks,	%	2.00
Segment Capacity, veh/h	1700	Demand/Cap	pacity (D/C)	0.03
Intermediate Results				
Segment Vertical Class	1	Free-Flow Sp	peed, mi/h	45.7
Speed Slope Coefficient	3.03892	Speed Power	r Coefficient	0.41674
PF Slope Coefficient	-1.38571	PF Power Co	efficient	0.71894
In Passing Lane Effective Length?	No	Total Segme	nt Density, veh/mi/ln	0.2
%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	-	-	45.7
Vehicle Results				
Average Speed, mi/h	45.7	Percent Folio	owers, %	16.2
Segment Travel Time, minutes	1.31	Followers De	ensity, followers/mi/ln	0.2
Vehicle LOS	Α			

	HCS7 Two-La	ne Highway F	Report		
Project Information					
Analyst	KT	Date		12/4/2020	
Agency	W-Trans	Analysis Year		2020	
Jurisdiction	County of Napa	Time Period Ana	lyzed	Saturday PM Future	
Project Description		odi Ln – East of Project Unit Driveway (EB) – Saturday		United States Customary	
	Se	gment 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 De	nsity, pts/mi	0.0	
Demand and Capacity					
Directional Demand Flow Rate, veh/h	51	Opposing Dema	nd Flow Rate, veh/h	-	
Peak Hour Factor	1.00	Total Trucks, %		3.00	
Segment Capacity, veh/h	1700	Demand/Capaci	ty (D/C)	0.03	
Intermediate Results					
Segment Vertical Class	1	Free-Flow Speed	l, mi/h	48.2	
Speed Slope Coefficient	3.17262	Speed Power Co	efficient	0.41674	
PF Slope Coefficient	-1.37591	PF Power Coeffic	ient	0.72726	
In Passing Lane Effective Length?	No	Total Segment D	ensity, veh/mi/ln	0.2	
%Improved % Followers	0.0	% Improved Avg	Speed	0.0	
Subsegment Data					
# Segment Type	ent Type Length, ft R		Superelevation, %	Average Speed, mi/h	
1 Tangent	t 5280 -		-	48.2	
Vehicle Results			•		
Average Speed, mi/h	48.2	Percent Follower	rs, %	14.6	
Segment Travel Time, minutes	1.24	Followers Densit	y, followers/mi/ln	0.2	
Vehicle LOS	A				

Vehicle LOS

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

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Pro	oject Information				
Ana	lyst	KT	Date		12/4/20
Age	ncy	W-Trans	Analysis Year		2020
Juris	diction	County of Napa	Time Period A	nalyzed	Saturday PM Future
Proj	roject Description Lodi Ln – East of Project Driveway (WB) – Saturday PM				United States Customar
		Se	gment 1		
Vel	hicle Inputs				
Segi	ment Type	Passing Constrained	Length, ft		5280
Lane	e Width, ft	14	Shoulder Widt	h, ft	0
Spe	ed Limit, mi/h	45	Access Point D	ensity, pts/mi	0.0
De	mand and Capacity				
Dire	ctional Demand Flow Rate, veh/h	Il Demand Flow Rate, veh/h 67 C		nand Flow Rate, veh/h	-
Peak	Hour Factor	1.00	Total Trucks, %	,	3.00
Segi	ment Capacity, veh/h	1700	700 Demand/Capacity		0.04
Int	ermediate Results				
Segi	ment Vertical Class	1	Free-Flow Spe	ed, mi/h	48.2
Spe	ed Slope Coefficient	3.17262	Speed Power 0	Coefficient	0.41674
PF S	lope Coefficient	-1.37591	PF Power Coef	ficient	0.72726
In Pa	assing Lane Effective Length?	No	Total Segment	Density, veh/mi/ln	0.2
%lm	proved % Followers	0.0	% Improved A	vg Speed	0.0
Sul	bsegment Data				
#	Segment Type	Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	5280	-	-	48.2
Vel	hicle Results				
Avei	rage Speed, mi/h	48.2	Percent Follow	vers, %	17.5
Segi	ment Travel Time, minutes	1.24	Followers Den	sity, followers/mi/ln	0.2
Vehi	icle LOS	Α			1

	HCS7 Two-Lar	ne Highway R	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 Future	
Project Description	Silverado Trail – North o Lodi Lane (NB) – Saturda PM	iil – North of Unit		United States Customary	
	Se	gment 1			
Vehicle Inputs					
Segment Type	Passing Constrained	Length, ft		5280	
Lane Width, ft	12	Shoulder Width, f	t	6	
Speed Limit, mi/h	45	Access Point Dens	sity, pts/mi	5.0	
Demand and Capacity					
Directional Demand Flow Rate, veh/h	423	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)	0.25	
Intermediate Results					
Segment Vertical Class	1	Free-Flow Speed,	mi/h	50.0	
Speed Slope Coefficient	3.26747	Speed Power Coe	fficient	0.41674	
PF Slope Coefficient	-1.36740	PF Power Coeffici	ent	0.73276	
In Passing Lane Effective Length?	No	Total Segment De	nsity, veh/mi/ln	4.6	
%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 -		-	47.9	
Vehicle Results					
Average Speed, mi/h	47.9	Percent Followers	, %	51.7	
Segment Travel Time, minutes	1.25	Followers Density	, followers/mi/ln	4.6	
Vehicle LOS	В				

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5_Silverado Trail - North of Lodi Lane (NB) - Saturday PM - F.xuf

Pro	ject Information					
Anal	yst	KT		Date		12/4/20
Age	ncy	W-Trans		Analysis Year		2020
Juris	diction	County of Napa		Time Period An	alyzed	Saturday PM Future
Project Description Silverado Trail – North of Lodi Lane (SB) – Saturday PM			Unit		United States Customa	
			Segr	nent 1		
Vel	nicle Inputs					
Segr	ment Type	Passing Constrain	ned	Length, ft		5280
Lane	Width, ft	12		Shoulder Width	ı, ft	6
Spee	ed Limit, mi/h	45		Access Point De	ensity, pts/mi	1.0
Dei	mand and Capacity					
Dire	ctional Demand Flow Rate, veh/h	381		Opposing Demand Flow Rate, veh/h		-
Peak	Hour Factor	1.00		Total Trucks, %		3.00
Segr	ment Capacity, veh/h	1700	1700		tity (D/C)	0.22
Int	ermediate Results					
Segr	ment Vertical Class	1		Free-Flow Spee	d, mi/h	51.0
Spee	ed Slope Coefficient	3.32167		Speed Power C	oefficient	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		3.8
%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	-		-	49.0
Vel	nicle Results					
Aver	rage Speed, mi/h	49.0		Percent Followers, %		48.8
Segr	ment Travel Time, minutes	1.22		Followers Density, followers/mi/ln		3.8
Vehi	cle LOS	В	R			

	HCS7 Two-La	ne Highway F	Report	
Project Information				
Analyst	Date		12/4/20	
Agency	W-Trans	Analysis Year		2020
Jurisdiction	County of Napa	Time Period Ana	lyzed	Saturday PM Future
Project Description	Silverado Trail – South o Lodi Lane (NB) – Saturd PM			United States Customary
	Se	gment 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 Der	nsity, pts/mi	5.0
Demand and Capacity				
Directional Demand Flow Rate, veh/h	439	Opposing Dema	nd Flow Rate, veh/h	-
Peak Hour Factor	1.00	Total Trucks, %		3.00
Segment Capacity, veh/h	1700	Demand/Capacit	ty (D/C)	0.26
Intermediate Results				
Segment Vertical Class	1	Free-Flow Speed	l, mi/h	50.0
Speed Slope Coefficient	3.26747	Speed Power Co	efficient	0.41674
PF Slope Coefficient	-1.36740	PF Power Coeffic	ient	0.73276
In Passing Lane Effective Length?	No	Total Segment D	ensity, veh/mi/ln	4.8
%Improved % Followers	0.0	% Improved Avg	Speed	0.0
Subsegment Data	-			
# Segment Type	Length, ft	Radius, ft	Radius, ft Superelevation, %	
1 Tangent	Tangent 5280 -		-	47.9
Vehicle Results				
Average Speed, mi/h	47.9	Percent Follower	rs, %	52.7
Segment Travel Time, minutes	1.25	Followers Densit	y, followers/mi/ln	4.8
Vehicle LOS	В			

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

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	I	- ·		1011100
Analyst	KT	Date		12/4/20
Agency	W-Trans	Analysis Year		2020
Jurisdiction	County of Napa	Time Period A	nalyzed	Saturday PM Future
Project Description Silverado Trail – South of Lodi Lane (SB) – Saturday PM				United States Customa
	Se	gment 1		
Vehicle Inputs				
Segment Type	Passing Constrained	Length, ft		5280
Lane Width, ft	12	Shoulder Widt	h, ft	6
Speed Limit, mi/h	45	Access Point D	ensity, pts/mi	1.0
Demand and Capacity				
Directional Demand Flow Rate, veh/h	381	Opposing Der	nand Flow Rate, veh/h	-
Peak Hour Factor	1.00	Total Trucks, %	b	3.00
Segment Capacity, veh/h	1700	Demand/Capa	city (D/C)	0.22
Intermediate Results				
Segment Vertical Class	1	Free-Flow Spe	ed, mi/h	51.0
Speed Slope Coefficient	3.32167	Speed Power	Coefficient	0.41674
PF Slope Coefficient	-1.36197	PF Power Coe	ficient	0.73580
In Passing Lane Effective Length?	No	Total Segment	Density, veh/mi/ln	3.8
%Improved % Followers	0.0	% Improved A	vg 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	49.0	Percent Follow	vers, %	48.8
Segment Travel Time, minutes	1.22	Followers Den	sity, followers/mi/ln	3.8
Vehicle LOS	В			

HCS7 Two-Lane Highway Report

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6_Silverado Trail – South of Lodi Lane (SB) – Saturday PM – F.xuf Generated: 12/06/2020 21:22:50

Project Information				
Analyst	KT	Date		12/4/20
Agency	W-Trans	Analysis Year		2020
Jurisdiction	County of Napa	Time Period Anal	yzed	Friday PM Existing plus Project
Project Description	SR 29 – North of Lodi La (NB) – Friday PM	ne Unit		United States Customar
	Seg	ment 1		
Vehicle Inputs				
Segment Type	Passing Constrained	Length, ft		5280
Lane Width, ft	12	Shoulder Width,	ft	6
Speed Limit, mi/h	50	Access Point Den	sity, pts/mi	4.0
Demand and Capacity				
Directional Demand Flow Rate, veh/h	735	Opposing Demar	Opposing Demand Flow Rate, veh/h	
Peak Hour Factor	0.96	Total Trucks, %		4.00
Segment Capacity, veh/h	1700	00 Demand/Capacity		0.43
Intermediate Results				
Segment Vertical Class	1	Free-Flow Speed,	mi/h	55.9
Speed Slope Coefficient	3.58815	Speed Power Coe	efficient	0.41674
PF Slope Coefficient	-1.32983	PF Power Coeffic	ent	0.75000
In Passing Lane Effective Length?	No	Total Segment De	ensity, veh/mi/ln	9.1
%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 -		-	52.9
Vehicle Results				
Average Speed, mi/h	52.9	Percent Followers	5, %	65.2
Segment Travel Time, minutes	1.13	Followers Density	, followers/mi/ln	9.1
Vehicle LOS	С			

Project Information			I		
Analyst	KT		Date		12/4/2020
Agency	W-Trans		Analysis Year		2020
Jurisdiction	County of Napa		Time Period Ar	nalyzed	Friday PM Existing plu Project
Project Description	SR 29 – North of (SB) – Friday PM	Lodi Lane	Unit		United States Customa
		Segm	nent 1		
Vehicle Inputs					
Segment Type	Passing Constrai	ned	Length, ft		5280
Lane Width, ft	12		Shoulder Widtl	h, ft	6
Speed Limit, mi/h	50		Access Point D	ensity, pts/mi	10.0
Demand and Capacity					
Directional Demand Flow Rate, veh/h	674		Opposing Demand Flow Rate, veh/h		-
Peak Hour Factor	0.96		Total Trucks, %		4.00
Segment Capacity, veh/h	1700		Demand/Capa	city (D/C)	0.40
Intermediate Results					
Segment Vertical Class	1		Free-Flow Spee	ed, mi/h	54.4
Speed Slope Coefficient	3.50685		Speed Power Coefficient		0.41674
PF Slope Coefficient	-1.34047		PF Power Coef	ficient	0.74585
In Passing Lane Effective Length?	No		Total Segment	Density, veh/mi/ln	8.3
%Improved % Followers	0.0		% Improved Avg Speed		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 Followers, %		63.2
Segment Travel Time, minutes	1.16		Followers Dens	sity, followers/mi/ln	8.3
	С				1

HCS7 Two-Lane Highway Report

Project Information					
Analyst	yst KT			12/4/2020	
Agency	W-Trans	Analysis Year		2020	
Jurisdiction	County of Napa	Time Period Anal	yzed	Friday PM Existing plus Project	
Project Description	SR 29 – South of Lodi La (NB) – Friday PM	ne Unit		United States Customar	
	Seg	ment 1			
Vehicle Inputs					
Segment Type	Passing Constrained	Length, ft		5280	
Lane Width, ft	12	Shoulder Width,	ft	6	
Speed Limit, mi/h	ed Limit, mi/h 50		sity, pts/mi	4.0	
Demand and Capacity					
Directional Demand Flow Rate, veh/h	740	Opposing Demar	nd Flow Rate, veh/h	-	
Peak Hour Factor	0.96	Total Trucks, %		4.00	
Segment Capacity, veh/h	1700	Demand/Capacit	y (D/C)	0.44	
Intermediate Results					
Segment Vertical Class	1	Free-Flow Speed,	, mi/h	55.9	
Speed Slope Coefficient	3.58815	Speed Power Coe	efficient	0.41674	
PF Slope Coefficient	-1.32983	PF Power Coeffic	ient	0.75000	
In Passing Lane Effective Length?	No	Total Segment De	ensity, veh/mi/ln	9.1	
%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 -		-	52.9	
Vehicle Results					
Average Speed, mi/h	52.9	Percent Followers	s, %	65.4	
Segment Travel Time, minutes	1.13	Followers Density	, followers/mi/ln	9.1	
Vehicle LOS	С				

	HCS7 Two-Lar	ne Highway Ro	eport		
Project Information					
Analyst	KT	Date		12/4/2020	
Agency	W-Trans	Analysis Year		2020	
Jurisdiction	County of Napa	Time Period Analy	vzed	Friday PM Existing plus Project	
Project Description	SR 29 – South of Lodi La (SB) – Friday PM	ne Unit		United States Customary	
	Seg	gment 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	736	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)	0.43	
Intermediate Results					
Segment Vertical Class	1	Free-Flow Speed,	mi/h	54.4	
Speed Slope Coefficient	3.50685	Speed Power Coe	fficient	0.41674	
PF Slope Coefficient	-1.34047	PF Power Coeffici	ent	0.74585	
In Passing Lane Effective Length?	No	Total Segment De	nsity, veh/mi/ln	9.4	
%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	-	-	51.5	
Vehicle Results					
Average Speed, mi/h	51.5	Percent Followers	, %	65.6	
Segment Travel Time, minutes	1.17	Followers Density	, followers/mi/ln	9.4	
				_	

	HCS7 Two-	-Lane	Highway I	Report			
Project Information							
Analyst	KT		Date		12/4/2020		
Agency	W-Trans		Analysis Year		2020		
Jurisdiction	County of Napa		Time Period An	alyzed	Friday PM Existing plus Project		
Project Description	t Description Lodi Ln – West of Project Unit Driveway (EB) – Friday PM				United States Customary		
		Segn	nent 1				
Vehicle Inputs							
Segment Type	Passing Constraine	ed	Length, ft		5280		
Lane Width, ft	14		Shoulder Width	, ft	0		
Speed Limit, mi/h	45		Access Point De	nsity, pts/mi	11.0		
Demand and Capacity							
Directional Demand Flow Rate, veh/	h 71		Opposing Dem	and Flow Rate, veh/h	nd Flow Rate, veh/h -		
Peak Hour Factor	0.96		Total Trucks, %		4.00		
Segment Capacity, veh/h	1700		Demand/Capac	ity (D/C)	0.04		
Intermediate Results							
Segment Vertical Class	1		Free-Flow Spee	d, mi/h	45.4		
Speed Slope Coefficient	3.02176		Speed Power Coefficient		0.41674		
PF Slope Coefficient	-1.38649		PF Power Coefficient		0.71813		
In Passing Lane Effective Length?	No		Total Segment I	Density, veh/mi/ln	0.3		
%Improved % Followers	0.0		% Improved Av	g Speed	0.0		
Subsegment Data							
# Segment Type	Length, ft	Rac	dius, ft	Superelevation, %	Average Speed, mi/h		
1 Tangent	5280	-		-	45.4		
Vehicle Results							
Average Speed, mi/h	45.4		Percent Followe	rs, %	18.7		
Segment Travel Time, minutes	1.32		Followers Densi	ty, followers/mi/ln	0.3		
Vehicle LOS	А						

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

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Subsegment Data Segment Type Length, ft Radius, ft Superelevation, % Average Speed, mi/h Tangent 5280 45.0 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 Vehicle LOS Copyright © 2020 University of Florida. All Rights Reserved. HCSTMI Two-Lane Version 7.8 Generated: 12/06/2020 21:46:57

HCS7 Two-Lane Highway Report

Date

Unit

Length, ft

Shoulder Width, ft

Total Trucks, %

Demand/Capacity (D/C)

Free-Flow Speed, mi/h

PF Power Coefficient

% Improved Avg Speed

Speed Power Coefficient

Total Segment Density, veh/mi/ln

Access Point Density, pts/mi

Opposing Demand Flow Rate, veh/h

Segment 1

Analysis Year

Time Period Analyzed

12/4/2020

Friday PM Existing plus

United States Customary

2020

Project

5280

10.0

4.00

0.08

45.7

0.41674

0.71899

8.0

0.0

KT

14

45

129

0.96

1700

3.03531

No

0.0

-1.38568

W-Trans

County of Napa

Lodi Ln – West of Project

Driveway (WB) - Friday PM

Passing Constrained

Project Information

Analyst

Agency

Jurisdiction

Project Description

Vehicle Inputs

Segment Type

Lane Width, ft

Speed Limit, mi/h

Peak Hour Factor

Segment Capacity, veh/h

Segment Vertical Class

Speed Slope Coefficient

%Improved % Followers

PF Slope Coefficient

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Intermediate Results

In Passing Lane Effective Length?

Demand and Capacity Directional Demand Flow Rate, veh/h

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

	HCS7 Two-Lar	ne Highway R	leport			
Project Information						
Analyst	KT	Date		12/4/2020		
Agency	W-Trans	Analysis Year		2020		
Jurisdiction	County of Napa	Time Period Ana	Friday PM Existing plus Project			
Project Description	Lodi Ln – East of Project Driveway (EB) – Friday P		Unit United States Cust			
	Se	gment 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 Der	nsity, pts/mi	11.0		
Demand and Capacity	·			·		
Directional Demand Flow Rate, veh/h	86	Opposing Dema	nd Flow Rate, veh/h	-		
Peak Hour Factor	0.96	Total Trucks, %		2.00		
Segment Capacity, veh/h	1700	Demand/Capacit	zy (D/C)	0.05		
Intermediate Results						
Segment Vertical Class	1	Free-Flow Speed, mi/h		45.5		
Speed Slope Coefficient	3.02537	Speed Power Co	efficient	0.41674		
PF Slope Coefficient	-1.38653	PF Power Coeffic	ient	0.71808		
In Passing Lane Effective Length?	No	Total Segment D	ensity, veh/mi/ln	0.4		
%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	-	-	45.5		
Vehicle Results						
Average Speed, mi/h	45.5	Percent Follower	s, %	21.3		
Segment Travel Time, minutes	1.32	Followers Densit	y, followers/mi/ln	0.4		
Vehicle LOS	A					

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

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 Vehicle Results

 Average Speed, mi/h
 47.6
 Percent Followers, %
 25.8

 Segment Travel Time, minutes
 1.26
 Followers Density, followers/mi/ln
 0.7

 Vehicle LOS
 A
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 4_Lodi Ln - East of Project Driveway (WB) - Friday PM - E+P.xuf
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Radius, ft

HCS7 Two-Lane Highway Report

Date

Unit

Length, ft

Shoulder Width, ft

Total Trucks, %

Demand/Capacity (D/C)

Free-Flow Speed, mi/h

PF Power Coefficient

% Improved Avg Speed

Speed Power Coefficient

Total Segment Density, veh/mi/ln

Superelevation, %

Access Point Density, pts/mi

Opposing Demand Flow Rate, veh/h

Segment 1

Analysis Year

Time Period Analyzed

12/4/20

Friday PM Existing plus

United States Customary

2020

Project

5280

0.0

2.00

0.07

48.2

0.41674

0.72723

Average Speed, mi/h

0.7

0.0

47.6

KT

14

45

122

0.96

1700

3.17442

No

0.0

-1.37589

Length, ft

5280

W-Trans

County of Napa

Lodi Ln – East of Project

Passing Constrained

Driveway (WB) - Friday PM

Project Information

Analyst

Agency

Jurisdiction

Project Description

Vehicle Inputs

Segment Type

Lane Width, ft

Speed Limit, mi/h

Peak Hour Factor

Segment Capacity, veh/h

Segment Vertical Class

Speed Slope Coefficient

%Improved % Followers

Segment Type

Tangent

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PF Slope Coefficient

Intermediate Results

In Passing Lane Effective Length?

	HCS7 Two-Lan	e Highway Re _l	port		
Project Information					
Analyst	KT	Date		12/4/20	
Agency	W-Trans	Analysis Year		2020	
Jurisdiction	County of Napa	Time Period Analyze	ed	Friday PM Existing plus Project	
Project Description	escription Silverado Trail – North of Lodi Lane (NB) – Friday PM				
	Seg	ment 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 Densit	y, pts/mi	5.0	
Demand and Capacity	<u> </u>				
Directional Demand Flow Rate, veh/h	345	Opposing Demand	Flow Rate, veh/h	-	
Peak Hour Factor	0.96	Total Trucks, %		2.00	
Segment Capacity, veh/h	1700	Demand/Capacity (I	D/C)	0.20	
Intermediate Results					
Segment Vertical Class	1	Free-Flow Speed, m	ni/h	50.0	
Speed Slope Coefficient	3.26927	Speed Power Coeffi	icient	0.41674	
PF Slope Coefficient	-1.36736	PF Power Coefficien	nt	0.73272	
n Passing Lane Effective Length?	No	Total Segment Dens	sity, veh/mi/ln	3.3	
%Improved % Followers	0.0	% Improved Avg Sp	eed	0.0	
Subsegment Data	-				
# Segment Type	Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h	
1 Tangent	5280 -	-	-	48.2	
Vehicle Results					
Average Speed, mi/h	48.2	Percent Followers, 9	%	46.6	
Segment Travel Time, minutes	1.25	Followers Density, fo	ollowers/mi/ln	3.3	
Vehicle LOS	В	,			

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

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Average Speed, mi/h

49.2

Percent Followers, %

45.2

Segment Travel Time, minutes

1.22

Followers Density, followers/mi/ln

3.0

Vehicle LOS

B

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B

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

Radius, ft

HCS7 Two-Lane Highway Report

Date

Unit

Length, ft

Shoulder Width, ft

Total Trucks, %

Demand/Capacity (D/C)

Free-Flow Speed, mi/h

PF Power Coefficient

% Improved Avg Speed

Speed Power Coefficient

Total Segment Density, veh/mi/ln

Superelevation, %

Access Point Density, pts/mi

Opposing Demand Flow Rate, veh/h

Segment 1

Analysis Year

Time Period Analyzed

12/4/20

Friday PM Existing plus

United States Customary

2020

Project

5280

1.0

2.00

0.19

51.0

0.41674

0.73576

Average Speed, mi/h

3.0

0.0

49.2

KT

12

45

329

0.96

1700

3.32347

No

0.0

-1.36191

Length, ft

5280

W-Trans

County of Napa

Silverado Trail – North of

Lodi Lane (SB) – Friday PM

Passing Constrained

Project Information

Analyst

Agency

Jurisdiction

Project Description

Vehicle Inputs

Segment Type

Lane Width, ft

Speed Limit, mi/h

Peak Hour Factor

Segment Capacity, veh/h

Segment Vertical Class

Speed Slope Coefficient

%Improved % Followers

Segment Type

Tangent

Vehicle Results

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PF Slope Coefficient

Intermediate Results

In Passing Lane Effective Length?

	HCS7 Two-Lar	ie 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	Friday PM Existing plus Project	
Project Description	Silverado Trail – South of Lodi Lane (NB) – Friday PM				
	Seg	ment 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 Dens	ity, pts/mi	5.0	
Demand and Capacity					
Directional Demand Flow Rate, veh/h	380	Opposing Demand	d Flow Rate, veh/h	-	
Peak Hour Factor	0.96	Total Trucks, %		2.00	
Segment Capacity, veh/h	1700	Demand/Capacity	(D/C)	0.22	
Intermediate Results					
Segment Vertical Class	1	Free-Flow Speed,	mi/h	50.0	
Speed Slope Coefficient	3.26927	Speed Power Coef	ficient	0.41674	
PF Slope Coefficient	-1.36736	PF Power Coefficie	ent	0.73272	
In Passing Lane Effective Length?	No	Total Segment De	nsity, veh/mi/ln	3.9	
%Improved % Followers	0.0	% Improved Avg S	peed	0.0	
Subsegment Data	-				
# Segment Type	Length, ft F	Radius, ft	Superelevation, %	Average Speed, mi/h	
1 Tangent	5280 -		-	48.1	
Vehicle Results					
Average Speed, mi/h	48.1	Percent Followers,	%	49.0	
Segment Travel Time, minutes	1.25	Followers Density,	followers/mi/ln	3.9	
Vehicle LOS	В				

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

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Average Speed, mi/h

49.2

Percent Followers, %

45.2

Segment Travel Time, minutes

1.22

Followers Density, followers/mi/ln

3.0

Vehicle LOS

B

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

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Radius, ft

HCS7 Two-Lane Highway Report

Date

Unit

Length, ft

Shoulder Width, ft

Total Trucks, %

Demand/Capacity (D/C)

Free-Flow Speed, mi/h

PF Power Coefficient

% Improved Avg Speed

Speed Power Coefficient

Total Segment Density, veh/mi/ln

Superelevation, %

Access Point Density, pts/mi

Opposing Demand Flow Rate, veh/h

Segment 1

Analysis Year

Time Period Analyzed

12/4/20

Friday PM Existing plus

United States Customary

2020

Project

5280

1.0

2.00

0.19

51.0

0.41674

0.73576

Average Speed, mi/h

3.0

0.0

49.2

KT

12

45

329

0.96

1700

3.32347

No

0.0

-1.36191

Length, ft

5280

W-Trans

County of Napa

Silverado Trail – South of

Lodi Lane (SB) – Friday PM

Passing Constrained

Project Information

Analyst

Agency

Jurisdiction

Project Description

Vehicle Inputs

Segment Type

Lane Width, ft

Speed Limit, mi/h

Peak Hour Factor

Segment Capacity, veh/h

Segment Vertical Class

Speed Slope Coefficient

%Improved % Followers

Segment Type

Tangent

Vehicle Results

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PF Slope Coefficient

Intermediate Results

In Passing Lane Effective Length?

		HCS7 Two	o-Lane	High	way Report	
Project Inf	formation					
Analyst		KT		Date	6/2/2021	
Agency		W-Trans		Analysis	Year	2021
Jurisdiction		County of Napa		Time Per	iod Analyzed	Saturday PM Existing plu Project
Project Descrip	otion	SR 29 – North of (NB) – Saturday		Unit		United States Customary
			Segn	nent 1		
Vehicle Inp	puts					
Segment Type		Passing Constrai	ned	Length,	ft	5280
Lane Width, ft		12		Shoulde	r Width, ft	6
Speed Limit, m	ni/h	50		Access P	oint Density, pts/mi	4.0
Demand a	nd Capacity					·
Directional Demand Flow Rate, veh/h		730		Opposing Demand Flow Rate, veh/h		-
Peak Hour Factor		0.96		Total Trucks, %		2.00
Segment Capacity, veh/h		1700		Demand	/Capacity (D/C)	0.43
Intermedia	ate Results					
Segment Verti	cal Class	1		Free-Flow Speed, mi/h		55.9
Speed Slope C	oefficient	3.59176		Speed Power Coefficient		0.41674
PF Slope Coeff	ficient	-1.32959		PF Power Coefficient		0.74990
In Passing Lane	e Effective Length?	No		Total Seg	gment Density, veh/mi/ln	9.0
%Improved %	Followers	0.0		% Impro	ved Avg Speed	0.0
Subsegme	ent Data					
# Segment	t Туре	Length, ft	Rad	lius, ft	Superelevation, %	Average Speed, mi/h
1 Tangent		5280	-		-	53.0
Vehicle Re	sults	'				,
Average Speed	d, mi/h	53.0		Percent	Followers, %	65.0
Segment Trave	el Time, minutes	1.13		Follower	Density, followers/mi/ln	9.0
Vehicle LOS		С				
Facility Re	sults					
т	Followe	r Density, follower	s/mi/ln			LOS
1		9.0				C

1_SR 29 – North of Lodi Lane (NB) – Saturday PM – E+P.xuf

			HCS7 Two-La	ane	Highv	vay Re	eport	
Project	t Infor	mation						
Analyst			KT		Date			6/2/2021
Agency			W-Trans		Analysis	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	egn	nent 1			
Vehicle	e Input	s						
Segment Type		Passing Constrained		Length, f	t		5280	
Lane Wid	lth, ft		12		Shoulder	Width, f	t	6
Speed Limit, mi/h		50		Access P	oint Dens	ity, pts/mi	10.0	
Demar	nd and	Capacity						
Directional Demand Flow Rate, veh/h		706		Opposin	g Deman	d Flow Rate, veh/h	-	
Peak Hour Factor		0.96		Total Trucks, %			2.00	
Segment	Capacity,	veh/h	1700		Demand/Capacity (D/C)		(D/C)	0.42
Interm	ediate	Results						
Segment	Vertical C	Class	1		Free-Flow Speed, mi/h		mi/h	54.4
Speed Slo	ope Coeff	icient	3.51046		Speed Power Coefficient 0.4		0.41674	
PF Slope	Coefficier	nt	-1.34026		PF Powe	r Coefficie	ent	0.74575
In Passing	g Lane Eff	ective Length?	No		Total Seg	ment De	nsity, veh/mi/ln	8.8
%Improve	ed % Follo	owers	0.0		% Impro	ved Avg S	Speed	0.0
Subsec	gment	Data						
# Seg	gment Typ	oe .	Length, ft	Rad	lius, ft		Superelevation, %	Average Speed, mi/h
1 Tan	igent		5280	-			-	51.6
Vehicle	e Resul	ts						
Average S	Speed, mi	i/h	51.6		Percent I	ollowers	, %	64.4
Segment	Travel Tir	ne, minutes	1.16		Follower	Density,	followers/mi/ln	8.8
Vehicle LO	OS		С					
Facility	/ Resul	ts						
т		Follower	Density, followers/mi/	/In			LC	os
1			8.8			С		

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		HCS7 Two	o-Lane	High	vay Report	
Project Inf	ormation					
Analyst		KT		Date	6/2/2021	
Agency		W-Trans		Analysis	Year	2021
Jurisdiction		County of Napa		Time Per	iod Analyzed	Saturday PM Existing plu Project
Project Descrip	tion	SR 29 – South of (NB) – Saturday		Unit		United States Customary
			Segn	nent 1		
Vehicle Inp	outs					
Segment Type		Passing Constrai	ned	Length,	ft	5280
Lane Width, ft		12		Shoulde	r Width, ft	6
Speed Limit, m	i/h	50		Access P	oint Density, pts/mi	4.0
Demand a	nd Capacity					·
Directional Demand Flow Rate, veh/h		740		Opposing Demand Flow Rate, veh/h		-
Peak Hour Factor		0.96		Total Tru	cks, %	2.00
Segment Capacity, veh/h		1700		Demand	/Capacity (D/C)	0.44
Intermedia	nte Results					
Segment Vertic	al Class	1		Free-Flow Speed, mi/h		55.9
Speed Slope C	pefficient	3.59176			ower Coefficient	0.41674
PF Slope Coeff	icient	-1.32959		PF Power Coefficient		0.74990
In Passing Lane	Effective Length?	No		Total Seg	gment Density, veh/mi/ln	9.1
%Improved %	Followers	0.0		% Impro	ved Avg Speed	0.0
Subsegme	nt Data					
# Segment	Туре	Length, ft	Rad	lius, ft	Superelevation, %	Average Speed, mi/h
1 Tangent		5280	-		-	53.0
Vehicle Re	sults					,
Average Speed	l, mi/h	53.0		Percent	Followers, %	65.4
Segment Trave	I Time, minutes	1.13		Follower	Density, followers/mi/ln	9.1
Vehicle LOS		С				
Facility Re	sults					
т	Followe	r Density, follower	s/mi/ln			LOS
1		9.1				C

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

		HCS7 Two-La	41 IC_	nigity	vay Ke	-port	
Project In	formation						
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 – South of Lodi (SB) – Saturday PM	Lane	Unit			United States Customary
		Se	egm	ent 1			
Vehicle In	puts						
Segment Type		Passing Constrained		Length, f	t		5280
Lane Width, ft		12		Shoulder	Width, f	t	6
Speed Limit, mi/h		50		Access P	oint Dens	ity, pts/mi	10.0
Demand a	and Capacity						
Directional Demand Flow Rate, veh/h		717		Opposin	g Deman	d Flow Rate, veh/h	-
Peak Hour Factor		0.96		Total Trucks, %			2.00
Segment Capacity, veh/h		1700		Demand	/Capacity	(D/C)	0.42
segment Capa	acity, ven/n	1700		D Cilliania,	capacity	(D/C)	0.42
	ate Results	1700		Demand,	Capacity	(5/ 5)	0.42
	ate Results	1			w Speed,		54.4
Intermedi	ate Results			Free-Flov		mi/h	
Intermedi Segment Verti	ate Results ical Class Coefficient	1		Free-Flow	w Speed,	mi/h fficient	54.4
Intermedia Segment Verti Speed Slope C PF Slope Coeff	ate Results ical Class Coefficient	1 3.51046		Free-Flow Speed Power	w Speed, ower Coef r Coefficie	mi/h fficient	54.4 0.41674
Intermedia Segment Verti Speed Slope C PF Slope Coeff	ate Results ical Class Coefficient ficient se Effective Length?	1 3.51046 -1.34026		Free-Flow Speed Power Total Seg	w Speed, ower Coef r Coefficie	mi/h fficient ent nsity, veh/mi/ln	54.4 0.41674 0.74575
Intermedia Segment Verti Speed Slope C PF Slope Coeff In Passing Lan	ate Results ical Class Coefficient ficient le Effective Length? Followers	1 3.51046 -1.34026 No		Free-Flow Speed Power Total Seg	w Speed, ower Coefficie r Coefficie	mi/h fficient ent nsity, veh/mi/ln	54.4 0.41674 0.74575 9.0
Intermedia Segment Verti Speed Slope C PF Slope Coeff In Passing Lan %Improved %	ate Results ical Class Coefficient fficient se Effective Length? Followers ent Data	1 3.51046 -1.34026 No	Radi	Free-Flow Speed Power Total Seg	w Speed, ower Coefficie r Coefficie	mi/h fficient ent nsity, veh/mi/ln	54.4 0.41674 0.74575 9.0
Intermedi. Segment Verti Speed Slope C PF Slope Coef In Passing Lan %Improved % Subsegme	ate Results ical Class Coefficient ficient ee Effective Length? Followers eent Data	1 3.51046 -1.34026 No 0.0	Radi	Free-Flov Speed Po PF Power Total Seg % Impro	w Speed, ower Coefficie r Coefficie	mi/h fficient ent nsity, veh/mi/ln speed	54.4 0.41674 0.74575 9.0 0.0
Intermedi. Segment Verti Speed Slope C PF Slope Coef In Passing Lan %Improved % Subsegme # Segmen	ate Results ical Class Coefficient ficient le Effective Length? Followers ent Data it Type	1 3.51046 -1.34026 No 0.0	Radi	Free-Flov Speed Po PF Power Total Seg % Impro	w Speed, ower Coefficie r Coefficie	mi/h fficient ent nsity, veh/mi/ln speed	54.4 0.41674 0.74575 9.0 0.0
Intermedi. Segment Verti Speed Slope C PF Slope Coeff In Passing Lan %Improved % Subsegme # Segmen 1 Tangent	ate Results ical Class Coefficient ficient te Effective Length? Followers ent Data it Type	1 3.51046 -1.34026 No 0.0	Radi -	Free-Flov Speed Pc PF Power Total Sec % Impro	w Speed, ower Coefficie r Coefficie	mi/h fficient ent nsity, veh/mi/ln speed Superelevation, %	54.4 0.41674 0.74575 9.0 0.0
Intermedia Segment Vertis Speed Slope Co PF Slope Coef In Passing Lan %Improved % Subsegme # Segmen 1 Tangent Vehicle Re Average Speed	ate Results ical Class Coefficient ficient te Effective Length? Followers ent Data it Type	1 3.51046 -1.34026 No 0.0	Radii -	Free-Flow Speed Po PF Power Total Sec % Improvious, ft	w Speed, ower Coef r Coefficie gment De ved Avg S	mi/h fficient ent nsity, veh/mi/ln speed Superelevation, %	54.4 0.41674 0.74575 9.0 0.0 Average Speed, mi/h 51.6
Intermedia Segment Vertis Speed Slope Co PF Slope Coef In Passing Lan %Improved % Subsegme # Segmen 1 Tangent Vehicle Re Average Speed	ate Results ical Class Coefficient ficient te Effective Length? Followers ent Data tt Type Esults d, mi/h	1 3.51046 -1.34026 No 0.0 Length, ft 5280	Radi	Free-Flow Speed Po PF Power Total Sec % Improvious, ft	w Speed, ower Coef r Coefficie gment De ved Avg S	mi/h fficient ent nsity, veh/mi/ln speed Superelevation, % -	54.4 0.41674 0.74575 9.0 0.0 Average Speed, mi/h 51.6
Intermedia Segment Verti Speed Slope Co PF Slope Coef In Passing Lan %Improved % Subsegme # Segmen 1 Tangent Vehicle Re Average Speed	ate Results ical Class Coefficient ficient lee Effective Length? Followers ent Data at Type esults d, mi/h el Time, minutes	1 3.51046 -1.34026 No 0.0 Length, ft 5280 51.6 1.16	Radi	Free-Flow Speed Po PF Power Total Sec % Improvious, ft	w Speed, ower Coef r Coefficie gment De ved Avg S	mi/h fficient ent nsity, veh/mi/ln speed Superelevation, % -	54.4 0.41674 0.74575 9.0 0.0 Average Speed, mi/h 51.6
Intermedi. Segment Verti Speed Slope Co PF Slope Coef In Passing Lan %Improved % Subsegme # Segmen 1 Tangent Vehicle Re Average Speed Segment Trave Vehicle LOS	ate Results ical Class Coefficient ficient le Effective Length? Followers lent Data let Type lessults d, mi/h let Time, minutes	1 3.51046 -1.34026 No 0.0 Length, ft 5280 51.6 1.16	-	Free-Flow Speed Po PF Power Total Sec % Improvious, ft	w Speed, ower Coef r Coefficie gment De ved Avg S	mi/h fficient ent nsity, veh/mi/ln speed Superelevation, % -	54.4 0.41674 0.74575 9.0 0.0 Average Speed, mi/h 51.6

rved. HCS TIM Two-Lane Version 7.9
2_SR 29 – South of Lodi Lane (SB) – Saturday PM – E+P.xuf

		HCS7 Tw	o-Lane	High	way Re	eport	
Pro	oject Information						
Ana	llyst	KT		Date			6/2/2021
Age	ency	W-Trans		Analysis	Year		2021
Juri	sdiction	County of Napa		Time Per	iod Analy	zed	Saturday PM Existing plu Project
Proj	ect Description	Lodi Ln – West o Driveway (EB) – PM		Unit		United States Customary	
			Segr	nent 1			
Ve	hicle Inputs						
Seg	ment Type	Passing Constra	ined	Length,	ft		5280
Lan	e Width, ft	14		Shoulde	r Width, f	1	0
Spe	ed Limit, mi/h	45		Access P	oint Dens	ity, pts/mi	11.0
De	mand and Capacity	_					
Dire	ectional Demand Flow Rate, veh/h	53		Opposing Demand Flow Rate, veh/h		d Flow Rate, veh/h	-
Pea	k Hour Factor	0.96		Total Tru	cks, %		2.00
Seg	ment Capacity, veh/h	1700		Demand	/Capacity	(D/C)	0.03
Int	ermediate Results						<u>'</u>
Seg	ment Vertical Class	1		Free-Flow Speed, mi/h		mi/h	45.5
Spe	ed Slope Coefficient	3.02537		Speed Power Coefficient		fficient	0.41674
PF S	Slope Coefficient	-1.38653		PF Power Coefficient		ent	0.71808
In P	assing Lane Effective Length?	No		Total Seg	gment De	nsity, veh/mi/ln	0.2
%In	nproved % Followers	0.0		% Impro	ved Avg S	Speed	0.0
Su	bsegment Data			_			<u>'</u>
#	Segment Type	Length, ft	Rad	dius, ft		Superelevation, %	Average Speed, mi/h
1	Tangent	5280	-			-	45.5
Ve	hicle Results					<u> </u>	'
Ave	rage Speed, mi/h	45.5		Percent	Followers	%	15.5
	ment Travel Time, minutes	1.32		Follower Density, followers/mi/ln		followers/mi/ln	0.2
Veh	icle LOS	A					
Fac	cility Results						
	T Follow	er Density, follower	s/mi/ln			LC)S
	1	0.2					

3_Lodi Ln – West of Project Driveway (EB) – Saturday PM – E+P.xuf

9									
Jurisd	diction		County of Napa	Tim	ne Peri	od Analy	d Analyzed Saturday PM Existing Project		
Project Description			Lodi Ln – West of Project Driveway (WB) – Saturd PM		Unit			United States Customary	
			Se	gmen	it 1				
Veh	icle Inpu	ts							
Segment Type Pa		Passing Constrained	Len	gth, ft			5280		
Lane Width, ft 14			Sho	oulder	Width, ft	:	0		
Speed	d Limit, mi/h		45	Acc	ess Po	int Dens	ity, pts/mi	10.0	
Den	nand and	l Capacity							
Directional Demand Flow Rate, veh/h		57	Ор	posing	Deman	d Flow Rate, veh/h	-		
Peak Hour Factor			0.96	Tota	al Truc	ks, %		2.00	
Segment Capacity, veh/h			1700	Der	Demand/Capacity (D/C)			0.03	
Inte	rmediate	Results							
Segm	nent Vertical	Class	1	Free	e-Flow	Speed,	mi/h	45.7	
Speed	d Slope Coet	ficient	3.03892	Spe	Speed Power Coefficient		ficient	0.41674	
PF SIc	ope Coefficie	ent	-1.38571 PF Power Cod		Coefficie	nt	0.71894		
In Pas	ssing Lane Ef	fective Length?	No Total Se		Total Segment Density, veh/mi/ln		nsity, veh/mi/ln	0.2	
%lmp	proved % Fol	lowers	0.0	% II	% Improved Avg Speed		0.0		
Sub	segment	Data							
#	Segment Ty	pe	Length, ft	Radius, f	ft		Superelevation, %	Average Speed, mi/h	
1	Tangent		5280	-			-	45.7	
Veh	icle Resu	lts							
Avera	age Speed, m	ni/h	45.7	Per	cent F	ollowers,	%	16.3	
Segm	nent Travel Ti	me, minutes	1.31	Foll	lower	Density, 1	ollowers/mi/ln	0.2	
Vehic	le LOS		A						
Faci	ility Resu	lts							
	т	Follower	Density, followers/mi/ln	1			LO	S	
	1		0.2				A		

HCS7 Two-Lane Highway Report

Date

Analysis Year

6/2/2021

2021

KT

W-Trans

Project Information

Analyst

Agency

Pre	ject Information						
		1		T_			1
Ana	lyst	KT		Date			6/2/2021
Age	•	W-Trans		Analysis	Year		2021
Juris	sdiction	County of Napa		Time Per	riod Analyz	zed	Saturday PM Existing pl Project
Proj	ect Description	Lodi Ln – East of Driveway (EB) – S PM		Unit			United States Customar
			Segr	nent 1			
Vel	hicle Inputs						
Seg	ment Type	Passing Constrai	ned	Length,	ft		5280
Lane	e Width, ft	14		Shoulde	r Width, ft		0
Spe	ed Limit, mi/h	45		Access P	oint Densi	ity, pts/mi	0.0
De	mand and Capacity	•					
Dire	ectional Demand Flow Rate, veh/h	56		Opposing Demand Flow Rate, veh/h		-	
Peal	k Hour Factor	0.91		Total Trucks, %		3.00	
Seg	ment Capacity, veh/h	1700		Demand/Capacity (D/C)		0.03	
Int	ermediate Results						
Segi	ment Vertical Class	1		Free-Flo	w Speed, r	mi/h	48.2
Spe	ed Slope Coefficient	3.17262		Speed Po	ower Coef	ficient	0.41674
PF S	lope Coefficient	-1.37591		PF Powe	PF Power Coefficient		0.72726
In Pa	assing Lane Effective Length?	No		Total Seg	gment Der	nsity, veh/mi/ln	0.2
%lm	nproved % Followers	0.0		% Impro	ved Avg S	peed	0.0
Sul	bsegment Data	•					
#	Segment Type	Length, ft	Rad	dius, ft		Superelevation, %	Average Speed, mi/h
1	Tangent	5280	-			-	48.2
Vel	hicle Results		,				
Ave	rage Speed, mi/h	48.2		Percent	Followers,	%	15.6
Segi	ment Travel Time, minutes	1.24		Follower	Density, f	ollowers/mi/ln	0.2
Vehi	icle LOS	А					
Fac	cility Results						
	T Follow	er Density, follower	s/mi/ln			LC	os
	1	ver Density, followers/mi/ln LOS 0.2 A					

%In	nproved % Fol	lowers	0.0		% Improved Av	g Speed	0.0
Su	bsegment	Data					
#	Segment Ty	pe	Length, ft	Rad	lius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent		5280	-		-	48.2
Ve	hicle Resu	lts					
Average Speed, mi/h		48.2		Percent Followers, %		18.1	
Seg	ment Travel Ti	me, minutes	1.24 F		Follower Density, followers/mi/ln		0.3
Veh	icle LOS		A				
Fac	cility Resu	lts					
	т	Follower I	Density, followers/mi/	ln		LO	5
	1		0.3			А	
Сору	right © 2021 Univ	versity of Florida. All Rights R	eserved. HCS1000 4_Lodi Ln – East of Project		ane Version 7.9 vay (WB) – Saturday	PM – E+P.xuf	Generated: 05/31/2021 18:35:20

HCS7 Two-Lane Highway Report

Date

Unit

Length, ft

Shoulder Width, ft

Total Trucks, %

Demand/Capacity (D/C)

Free-Flow Speed, mi/h

PF Power Coefficient

Speed Power Coefficient

Total Segment Density, veh/mi/ln

Access Point Density, pts/mi

Opposing Demand Flow Rate, veh/h

Segment 1

Analysis Year

Time Period Analyzed

6/2/2021

Saturday PM Existing plus

United States Customary

2021

Project

5280

0.0

3.00

0.04

48.2

0.41674

0.72726

0.3

KT

14

45

70

0.91

1700

3.17262

-1.37591

No

W-Trans

County of Napa

Lodi Ln – East of Project

Driveway (WB) – Saturday

Passing Constrained

Project Information

Analyst

Agency Jurisdiction

Project Description

Vehicle Inputs Segment Type

Lane Width, ft

Speed Limit, mi/h

Peak Hour Factor

Segment Capacity, veh/h

Segment Vertical Class

PF Slope Coefficient

Speed Slope Coefficient

Intermediate Results

In Passing Lane Effective Length?

Demand and Capacity Directional Demand Flow Rate, veh/h

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

			HCS7 Two	o-Lane	High	way Re	eport	
Pro	ject Informati	on						
Analy	yst		KT		Date			6/2/2021
Agen	псу		W-Trans		Analysis	Year		2021
Juriso	diction		County of Napa		Time Per	iod Analy	zed	Saturday PM Existing plu Project
Proje	ct Description		Silverado Trail – Lodi Lane (NB) – PM		Unit			United States Customary
				Segn	nent 1			
Veh	icle Inputs							
Segn	nent Type		Passing Constrai	ned	Length,	ft		5280
Lane	Width, ft		12		Shoulde	r Width, f	t	6
Spee	d Limit, mi/h		45		Access P	oint Dens	sity, pts/mi	5.0
Der	nand and Cap	acity	•					
Direc	tional Demand Flow	/ Rate, veh/h	342		Opposing Demand Flow Rate, veh/h		d Flow Rate, veh/h	-
Peak	Hour Factor		0.91		Total Trucks, %			3.00
Segn	nent Capacity, veh/h		1700		Demand/Capacity (D/C)		(D/C)	0.20
Inte	ermediate Resi	ults						
Segn	nent Vertical Class		1		Free-Flo	w Speed,	mi/h	50.0
Spee	d Slope Coefficient		3.26747		Speed Po	ower Coe	fficient	0.41674
PF SI	ope Coefficient		-1.36740		PF Powe	r Coefficient		0.73276
In Pa	ssing Lane Effective	Length?	No		Total Seg	gment De	nsity, veh/mi/ln	3.3
%lmp	proved % Followers		0.0		% Impro	ved Avg S	Speed	0.0
Sub	segment Data	1	•					
#	Segment Type		Length, ft	Rac	dius, ft		Superelevation, %	Average Speed, mi/h
1	Tangent		5280	-			-	48.1
Veh	icle Results		1					'
Avera	age Speed, mi/h		48.1		Percent	Followers	, %	46.3
Segment Travel Time, minutes 1.25			Follower	Density,	followers/mi/ln	3.3		
Vehic	le LOS		В					
Faci	ility Results							,
	Т	Follower	Density, follower	s/mi/ln			LC	os .
	1		3.3				F	3

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

Analys	st		KT		Date			6/2/2021
Agenc	у		W-Trans		Analysis	Year		2021
Jurisdi	iction		County of Napa		Time Per	Time Period Analyzed		Saturday PM Existing plus Project
Projec	t Description		Silverado Trail – North Lodi Lane (SB) – Satur PM		Unit			United States Customary
			S	egn	nent 1			
Vehi	icle Input	s						
Segme	ent Type		Passing Constrained		Length, f	t		5280
Lane V	Width, ft		12		Shoulde	Width, ft	:	6
Speed	l Limit, mi/h		45		Access P	oint Dens	ity, pts/mi	1.0
Dem	nand and	Capacity						
Directi	ional Deman	d Flow Rate, veh/h	313		Opposin	g Deman	d Flow Rate, veh/h	-
Peak F	Hour Factor		0.91		Total Trucks, %			3.00
Segme	ent Capacity,	veh/h	1700		Demand	Demand/Capacity (D/C)		0.18
Inte	rmediate	Results						
Segme	ent Vertical C	lass	1		Free-Flo	w Speed,	mi/h	51.0
Speed	l Slope Coeffi	cient	3.32167		Speed Po	ower Coef	ficient	0.41674
PF SIo	pe Coefficien	t	-1.36197		PF Powe	r Coefficie	ent	0.73580
In Pass	sing Lane Effe	ective Length?	No		Total Seg	ment De	nsity, veh/mi/ln	2.8
%Impr	roved % Follo	wers	0.0 %		% Impro	% Improved Avg Speed		0.0
Subs	segment l	Data						
#	Segment Typ	e	Length, ft	Rad	lius, ft		Superelevation, %	Average Speed, mi/h
1 '	Tangent		5280	-			-	49.2
Vehi	icle Result	ts						
Averag	ge Speed, mi,	/h	49.2		Percent I	ollowers,	%	44.0
Segme	ent Travel Tim	ne, minutes	1.22		Follower	Density, 1	followers/mi/ln	2.8
Vehicle	e LOS		В					
Facil	lity Result	ts						
	т	Follower	Density, followers/mi/	ln			LO	S
	•		2.8					

HCS7 Two-Lane Highway Report

Project Information

		HCS7 Two		9			
Project	Information						
Analyst		KT		Date			6/2/2021
Agency		W-Trans		Analysis	Year		2021
Jurisdictior	ו	County of Napa		Time Per	iod Analy	zed	Saturday PM Existing plu Project
Project Des	scription	Silverado Trail – Lodi Lane (NB) – PM		Unit		United States Customary	
			Segn	nent 1			
Vehicle	Inputs						
Segment T	ype	Passing Constrai	ined	Length,	ft		5280
Lane Width	n, ft	12		Shoulde	r Width, fi	t	6
Speed Limi	it, mi/h	45		Access P	oint Dens	ity, pts/mi	5.0
Deman	d and Capacity						
Directional	Demand Flow Rate, veh/h	363		Opposing Demand Flow Rate, veh/h		-	
Peak Hour	Factor	0.91		Total Trucks, %		3.00	
Segment C	Capacity, veh/h	1700		Demand/Capacity (D/C)		0.21	
Interme	ediate Results						<u>'</u>
Segment V	/ertical Class	1		Free-Flo	w Speed,	mi/h	50.0
Speed Slop	oe Coefficient	3.26747		Speed Po	ower Coef	fficient	0.41674
PF Slope C	oefficient	-1.36740	36740 PF Power Co		Power Coefficient		0.73276
n Passing	Lane Effective Length?	No	No Total		Total Segment Density, veh/mi/ln		3.6
%Improved	d % Followers	0.0		% Improved Avg Speed			0.0
Subseg	ment Data						
# Segn	nent Type	Length, ft	Rac	dius, ft		Superelevation, %	Average Speed, mi/h
1 Tang	ent	5280	-			-	48.1
Vehicle	Results						'
Average Sp	peed, mi/h	48.1		Percent	Followers,	%	47.8
Segment T	ravel Time, minutes	1.25		Follower	Density,	followers/mi/In	3.6
/ehicle LO	S	В					
Facility	Results						
т	Followe	r Density, follower	s/mi/ln			LC	os
1		rer Density, followers/mi/ln LOS 3.6 B					

6_Silverado Trail - South of Lodi Lane (NB) - Saturday PM - E+P.xuf

HCS7 Two-Lane Highway Report

Date

Unit

Length, ft

Shoulder Width, ft

Total Trucks, %

Demand/Capacity (D/C)

Free-Flow Speed, mi/h

PF Power Coefficient

% Improved Avg Speed

Percent Followers, %

Follower Density, followers/mi/ln

Radius, ft

Speed Power Coefficient

Total Segment Density, veh/mi/ln

Superelevation, %

Access Point Density, pts/mi

Opposing Demand Flow Rate, veh/h

Segment 1

Analysis Year

Time Period Analyzed

6/2/2021

Saturday PM Existing plus

United States Customary

2021

Project

5280

1.0

3.00

0.19

51.0

0.41674

0.73580

Average Speed, mi/h

2.8

0.0

49.2

44.2

2.8

KT

12

45

316

0.91

1700

3.32167

-1.36197

Length, ft

5280

49.2

1.22

В

No

0.0

W-Trans

County of Napa

Silverado Trail – South of

Lodi Lane (SB) - Saturday

Passing Constrained

Project Information

Analyst

Agency

Jurisdiction

Project Description

Vehicle Inputs

Segment Type

Lane Width, ft

Speed Limit, mi/h

Peak Hour Factor

Segment Capacity, veh/h

Segment Vertical Class

PF Slope Coefficient

Speed Slope Coefficient

%Improved % Followers

Segment Type

Tangent

Vehicle Results

Average Speed, mi/h

Vehicle LOS

Segment Travel Time, minutes

Intermediate Results

In Passing Lane Effective Length?

Project Information				
Analyst	KT	Date		12/4/20
Agency	W-Trans	Analysis Year		2020
Jurisdiction	County of Napa	Time Period Anal	lyzed	Friday PM Baseline plus Project
Project Description	SR 29 – North of Lodi La (NB) – Friday PM	ne Unit		United States Customar
	Seg	ment 1		
Vehicle Inputs				
Segment Type	Passing Constrained	Length, ft		5280
Lane Width, ft	12	Shoulder Width,	ft	6
Speed Limit, mi/h	50	Access Point Der	nsity, pts/mi	4.0
Demand and Capacity				
Directional Demand Flow Rate, veh/h	743	Opposing Demai	nd Flow Rate, veh/h	-
Peak Hour Factor	0.96	Total Trucks, %		4.00
Segment Capacity, veh/h	1700	Demand/Capacit	ty (D/C)	0.44
Intermediate Results				
Segment Vertical Class	1	Free-Flow Speed	, mi/h	55.9
Speed Slope Coefficient	3.58815	Speed Power Co	efficient	0.41674
PF Slope Coefficient	-1.32983	PF Power Coeffic	ient	0.75000
In Passing Lane Effective Length?	No	Total Segment D	ensity, veh/mi/ln	9.2
%Improved % Followers	0.0	% Improved Avg	Speed	0.0
Subsegment Data	<u> </u>	·		
# Segment Type	Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h
1 Tangent	5280 -		-	52.9
Vehicle Results				
Average Speed, mi/h	52.9	Percent Follower	s, %	65.5
Segment Travel Time, minutes	1.13	Followers Density	y, followers/mi/ln	9.2
Vehicle LOS	С			

	HC37 TWC	J-Laile	Highway Re	eport	
Project Information					
Analyst	KT		Date		12/4/2020
Agency	W-Trans		Analysis Year		2020
Jurisdiction	County of Napa	County of Napa		zed	Friday PM Baseline plus Project
Project Description	SR 29 – North of (SB) – Friday PM	SR 29 – North of Lodi Lane (SB) – Friday PM			United States Customa
		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	10.0
Demand and Capacity					
Directional Demand Flow Rate,	/eh/h 680	680		d Flow Rate, veh/h	-
Peak Hour Factor	0.96	0.96			4.00
Segment Capacity, veh/h	1700	1700		(D/C)	0.40
Intermediate Results					
Segment Vertical Class	1		Free-Flow Speed, mi/h		54.4
Speed Slope Coefficient	3.50685		Speed Power Coefficient		0.41674
PF Slope Coefficient	-1.34047		PF Power Coefficient		0.74585
In Passing Lane Effective Length	? No		Total Segment Density, veh/mi/ln		8.4
%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	-		-	51.6
Vehicle Results					
Average Speed, mi/h 51.6			Percent Followers, %		63.4
			Followers Density, followers/mi/ln		8.4
Segment Travel Time, minutes	1.16				

Project Information				
Analyst	T _{KT}	Date		12/4/2020
·	W-Trans			2020
Agency Jurisdiction	County of Napa	Analysis Year Time Period An	alyzed	Friday PM Baseline plus Project
Project Description	SR 29 – South of Lodi La (NB) – Friday PM	ne Unit		United States Customary
	Seg	ment 1		
Vehicle Inputs				
Segment Type	Passing Constrained	Length, ft		5280
Lane Width, ft	12	Shoulder Width	, ft	6
Speed Limit, mi/h	50	Access Point De	ensity, pts/mi	4.0
Demand and Capacity	·			
Directional Demand Flow Rate, veh/h	747	Opposing Dem	and Flow Rate, veh/h	-
Peak Hour Factor	0.96	Total Trucks, %		4.00
Segment Capacity, veh/h	1700	Demand/Capac	ity (D/C)	0.44
Intermediate Results				
Segment Vertical Class	1	Free-Flow Spee	d, mi/h	55.9
Speed Slope Coefficient	3.58815	Speed Power Co	pefficient	0.41674
PF Slope Coefficient	-1.32983	PF Power Coeff	cient	0.75000
In Passing Lane Effective Length?	No	Total Segment	Density, veh/mi/ln	9.3
%Improved % Followers	0.0	% Improved Av	g Speed	0.0
Subsegment Data		·		
# Segment Type	Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h
1 Tangent	5280 -		-	52.9
Vehicle Results				
Average Speed, mi/h	52.9	Percent Followe	ers, %	65.6
Segment Travel Time, minutes	1.13	Followers Dens	ty, followers/mi/ln	9.3
Vehicle LOS	С			

Project Information					
•	KT		Date		12/4/2020
Analyst	1				12/4/2020
Agency	W-Trans		Analysis Year		2020
Jurisdiction	County of Napa		Time Period Analy	zed	Friday PM Baseline plus Project
Project Description	SR 29 – South of (SB) – 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	10.0
Demand and Capacity					
Directional Demand Flow Rate, veh	/h 746	746 Opposing Demand Flow Rate, veh/h		-	
Peak Hour Factor	0.96	0.96			4.00
Segment Capacity, veh/h	1700	1700 Demand/Capaci		(D/C)	0.44
Intermediate Results					
Segment Vertical Class	1		Free-Flow Speed,	mi/h	54.4
Speed Slope Coefficient	3.50685		Speed Power Coe	fficient	0.41674
PF Slope Coefficient	-1.34047		PF Power Coefficie	ent	0.74585
In Passing Lane Effective Length?	No		Total Segment De	nsity, veh/mi/ln	9.6
%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	-		-	51.4
Vehicle Results					
Average Speed, mi/h	51.4		Percent Followers	, %	65.9
Segment Travel Time, minutes	1.17		Followers Density	followers/mi/ln	9.6
Vehicle LOS	С				

	HCS7 Tw	o-Lane	Highway I	Report		
Project Information						
Analyst	KT		Date		12/4/2020	
Agency	W-Trans		Analysis Year		2020	
Jurisdiction	County of Napa		Time Period An	alyzed	Friday PM Baseline plus Project	
Project Description	Lodi Ln – West o Driveway (EB) –		Unit		United States Customary	
		Segn	nent 1			
Vehicle Inputs						
Segment Type	Passing Constra	ined	Length, ft		5280	
Lane Width, ft	14		Shoulder Width	, ft	0	
Speed Limit, mi/h	45		Access Point Density, pts/mi		11.0	
Demand and Capacity						
Directional Demand Flow Rate, v	eh/h 77		Opposing Demand Flow Rate, veh/h		-	
Peak Hour Factor	0.96		Total Trucks, %		4.00	
Segment Capacity, veh/h	1700		Demand/Capac	ity (D/C)	0.05	
Intermediate Results						
Segment Vertical Class	1		Free-Flow Spee	d, mi/h	45.4	
Speed Slope Coefficient	3.02176		Speed Power Co	pefficient	0.41674	
PF Slope Coefficient	-1.38649		PF Power Coeffi	cient	0.71813	
In Passing Lane Effective Length?	No		Total Segment I	Density, veh/mi/ln	0.3	
%Improved % Followers	0.0		% Improved Av	Improved Avg Speed 0.0		
Subsegment Data						
# Segment Type	Length, ft	Rad	dius, ft	Superelevation, %	Average Speed, mi/h	
1 Tangent	5280	-		-	45.4	
Vehicle Results						
Average Speed, mi/h	45.4		Percent Followe	ers, %	19.8	
Segment Travel Time, minutes	1.32		Followers Densi	ty, followers/mi/ln	0.3	
Vehicle LOS	A					

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

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5280 Segment Type Passing Constrained Length, ft 14 Lane Width, ft Shoulder Width, ft Speed Limit, mi/h 45 Access Point Density, pts/mi 10.0 Demand and Capacity Directional Demand Flow Rate, veh/h 139 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** 45.7 Segment Vertical Class Free-Flow Speed, mi/h Speed Slope Coefficient 3.03531 Speed Power Coefficient 0.41674 PF Slope Coefficient PF Power Coefficient 0.71899 -1.38568 In Passing Lane Effective Length? No Total Segment Density, veh/mi/ln 0.9 0.0 0.0 %Improved % Followers % Improved Avg Speed **Subsegment Data** Segment Type Length, ft Radius, ft Superelevation, % Average Speed, mi/h Tangent 5280 44.9 Vehicle Results Average Speed, mi/h 44.9 Percent Followers, % 28.4 Segment Travel Time, minutes 1.34 Followers Density, followers/mi/ln 0.9 Vehicle LOS

HCS TIM Two-Lane Version 7.8

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

HCS7 Two-Lane Highway Report

Date

Unit

Segment 1

Analysis Year

Time Period Analyzed

12/4/2020

Friday PM Baseline plus

United States Customary

Generated: 12/06/2020 22:04:54

2020

Project

KT

W-Trans

County of Napa

Lodi Ln – West of Project

Driveway (WB) - Friday PM

Project Information

Analyst

Agency

Generated: 12/06/2020 22:04:05

Jurisdiction

Project Description

Vehicle Inputs

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	HCS7 Two-La	ne Highway	/ Report		
Project Information					
Analyst	KT	Date		12/4/2020	
Agency	W-Trans	Analysis Year		2020	
Jurisdiction	County of Napa	Time Period /	Analyzed	Friday PM Baseline plus Project	
Project Description	Lodi Ln – East of Project Driveway (EB) – Friday			United States Customary	
	Se	egment 1			
Vehicle Inputs					
Segment Type	Passing Constrained	Length, ft		5280	
Lane Width, ft	14	Shoulder Wid	lth, ft	0	
Speed Limit, mi/h	45	Access Point	Density, pts/mi	11.0	
Demand and Capacity					
Directional Demand Flow Rate, veh/h	91	Opposing De	mand Flow Rate, veh/h	-	
Peak Hour Factor	0.96	Total Trucks,	%	2.00	
Segment Capacity, veh/h	1700	Demand/Cap	acity (D/C)	0.05	
Intermediate Results					
Segment Vertical Class	1	Free-Flow Sp	eed, mi/h	45.5	
Speed Slope Coefficient	3.02537	Speed Power	Coefficient	0.41674	
PF Slope Coefficient	-1.38653	PF Power Coe	efficient	0.71808	
In Passing Lane Effective Length?	No	Total Segmen	nt Density, veh/mi/ln	0.4	
%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	-	-	45.5	
Vehicle Results					
Average Speed, mi/h	45.5	Percent Follo	wers, %	21.9	
Segment Travel Time, minutes	1.32	Followers De	nsity, followers/mi/ln	0.4	
Vehicle LOS	А				

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

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Segment Travel Time, minutes

1.26

Followers Density, followers/mi/In

0.7

Vehicle LOS

A

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

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Radius, ft

HCS7 Two-Lane Highway Report

Date

Unit

Length, ft

Shoulder Width, ft

Total Trucks, %

Demand/Capacity (D/C)

Free-Flow Speed, mi/h

PF Power Coefficient

% Improved Avg Speed

Percent Followers, %

Speed Power Coefficient

Total Segment Density, veh/mi/ln

Superelevation, %

Access Point Density, pts/mi

Opposing Demand Flow Rate, veh/h

Segment 1

Analysis Year

Time Period Analyzed

12/4/20

Friday PM Baseline plus

United States Customary

2020

Project

5280

0.0

2.00

0.07

48.2

0.41674

0.72723

Average Speed, mi/h

0.7

0.0

47.6

26.2

КТ

14

45

125

0.96

1700

3.17442

No

0.0

-1.37589

Length, ft

5280

47.6

W-Trans

County of Napa

Lodi Ln – East of Project

Passing Constrained

Driveway (WB) - Friday PM

Project Information

Analyst

Agency

Jurisdiction

Project Description

Vehicle Inputs

Segment Type

Lane Width, ft

Speed Limit, mi/h

Peak Hour Factor

Segment Capacity, veh/h

Segment Vertical Class

Speed Slope Coefficient

%Improved % Followers

Segment Type

Tangent

Vehicle Results

Average Speed, mi/h

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PF Slope Coefficient

Intermediate Results

In Passing Lane Effective Length?

	HCS7 Two-Lan	e Highway Re	port		
Project Information					
Analyst	KT	Date		12/4/20	
Agency	W-Trans	Analysis Year		2020	
Jurisdiction	County of Napa	Time Period Analyz	red	Friday PM Baseline plus Project	
Project Description	Silverado Trail – North of Lodi Lane (NB) – Friday P			United States Customary	
	Seg	ment 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 Densi	ty, pts/mi	5.0	
Demand and Capacity					
Directional Demand Flow Rate, veh/h	346	Opposing Demand	Flow Rate, veh/h	-	
Peak Hour Factor	0.96	Total Trucks, %		2.00	
Segment Capacity, veh/h	1700	Demand/Capacity	(D/C)	0.20	
Intermediate Results					
Segment Vertical Class	1	Free-Flow Speed, r	ni/h	50.0	
Speed Slope Coefficient	3.26927	Speed Power Coeff	ficient	0.41674	
PF Slope Coefficient	-1.36736	PF Power Coefficie	nt	0.73272	
In Passing Lane Effective Length?	No	Total Segment Der	sity, veh/mi/ln	3.3	
%Improved % Followers	0.0	% Improved Avg S	nproved Avg Speed 0.0		
Subsegment Data	-				
# Segment Type	Length, ft	ladius, ft	Superelevation, %	Average Speed, mi/h	
1 Tangent	5280 -		-	48.2	
Vehicle Results					
Average Speed, mi/h	48.2	Percent Followers,	%	46.6	
Segment Travel Time, minutes	1.25	Followers Density,	followers/mi/ln	3.3	
Vehicle LOS	В				

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

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 Vehicle Results

 Average Speed, mi/h
 49.2
 Percent Followers, %
 45.3

 Segment Travel Time, minutes
 1.22
 Followers Density, followers/mi/ln
 3.0

 Vehicle LOS
 B
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 5_Silverado Trail - North of Lodi Lane (SB) - Friday PM - B+P.xuf
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Radius, ft

HCS7 Two-Lane Highway Report

Date

Unit

Length, ft

Shoulder Width, ft

Total Trucks, %

Demand/Capacity (D/C)

Free-Flow Speed, mi/h

PF Power Coefficient

% Improved Avg Speed

Speed Power Coefficient

Total Segment Density, veh/mi/ln

Superelevation, %

Access Point Density, pts/mi

Opposing Demand Flow Rate, veh/h

Segment 1

Analysis Year

Time Period Analyzed

12/4/20

Friday PM Baseline plus

United States Customary

2020

Project

5280

1.0

2.00

0.19

51.0

0.41674

0.73576

Average Speed, mi/h

3.0

0.0

49.2

КТ

12

45

330

0.96

1700

3.32347

No

0.0

-1.36191

Length, ft

5280

W-Trans

County of Napa

Silverado Trail – North of

Lodi Lane (SB) – Friday PM

Passing Constrained

Project Information

Analyst

Agency

Jurisdiction

Project Description

Vehicle Inputs

Segment Type

Lane Width, ft

Speed Limit, mi/h

Peak Hour Factor

Segment Capacity, veh/h

Segment Vertical Class

Speed Slope Coefficient

%Improved % Followers

Segment Type

Tangent

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PF Slope Coefficient

Intermediate Results

In Passing Lane Effective Length?

Project Information				
Analyst	KT	Date		12/4/20
Agency	W-Trans	Analysis Year		2020
Jurisdiction	County of Napa	Time Period Anal	lyzed	Friday PM Baseline plus Project
Project Description	Silverado Trail – South o Lodi Lane (NB) – Friday			United States Customar
	Se	gment 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 Der	nsity, pts/mi	5.0
Demand and Capacity				
Directional Demand Flow Rate, veh/h	382	Opposing Dema	nd Flow Rate, veh/h	-
Peak Hour Factor	0.96	Total Trucks, %		2.00
Segment Capacity, veh/h	1700	Demand/Capacit	ty (D/C)	0.22
Intermediate Results				
Segment Vertical Class	1	Free-Flow Speed	, mi/h	50.0
Speed Slope Coefficient	3.26927	Speed Power Co	efficient	0.41674
PF Slope Coefficient	-1.36736	PF Power Coeffic	ient	0.73272
In Passing Lane Effective Length?	No	Total Segment D	ensity, veh/mi/ln	3.9
%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	-	-	48.1
Vehicle Results				
Average Speed, mi/h	48.1	Percent Follower	s, %	49.1
Segment Travel Time, minutes	1.25	Followers Density	y, followers/mi/ln	3.9
Vehicle LOS	В			

Ana	alyst	KT		Date		12/4/20	
Age	ency	W-Trans		Analysis Year	Analysis Year		
Juri	sdiction	County of Napa		Time Period Analy	/zed	Friday PM Baseline plus Project	
Pro	ject Description	Silverado Trail – : Lodi Lane (SB) –		Unit		United States Customar	
			Segi	ment 1			
Ve	hicle Inputs						
Segment Type Passing Constrained			Length, ft		5280		
Lan	e Width, ft	12		Shoulder Width, f	t	6	
Speed Limit, mi/h 45			Access Point Den	sity, pts/mi	1.0		
De	emand and Capacity						
Directional Demand Flow Rate, veh/h 332			Opposing Deman	d Flow Rate, veh/h	-		
Pea	k Hour Factor	0.96		Total Trucks, %		2.00	
Seg	ment Capacity, veh/h	1700		Demand/Capacity	/ (D/C)	0.20	
Int	termediate Results						
Seg	gment Vertical Class	1		Free-Flow Speed,	51.0		
Spe	eed Slope Coefficient	3.32347		Speed Power Coe	0.41674		
PF S	Slope Coefficient	-1.36191		PF Power Coeffici	ent	0.73576	
In P	Passing Lane Effective Length?	No		Total Segment De	ensity, veh/mi/ln	3.1	
%In	nproved % Followers	0.0		% Improved Avg	Speed	0.0	
Su	bsegment Data						
#	Segment Type	Length, ft	Ra	adius, ft	Superelevation, %	Average Speed, mi/h	
1	Tangent	5280	-		-	49.2	
Ve	hicle Results						
Ave	erage Speed, mi/h	49.2		Percent Followers	, %	45.4	
Seg	gment Travel Time, minutes	1.22		Followers Density	Followers Density, followers/mi/ln		
Veh	nicle LOS	В					

HCS7 Two-Lane Highway Report

D								
Project Info	rmation							
Analyst		KT		Date			6/2/2021	
Agency		W-Trans		Analysis Year			2021	
Jurisdiction		County of Napa		Time Per	riod Analy	zed	Saturday PM Baseline plu Project	
Project Descripti	on	SR 29 – North of Lodi Lane (NB) – Saturday PM			United States Customary			
			Segn	nent 1				
Vehicle Inpu	ıts							
Segment Type		Passing Constrain	ned	Length,	ft		5280	
Lane Width, ft 12				Shoulde	r Width, ft	t	6	
Speed Limit, mi/	h	50		Access P	oint Dens	ity, pts/mi	4.0	
Demand an	d Capacity							
Directional Dem	and Flow Rate, veh/h	721		Opposin	g Deman	d Flow Rate, veh/h	-	
Peak Hour Facto	•	0.96		Total Tru	cks, %		2.00	
Segment Capacity, veh/h		1700		Demand	/Capacity	(D/C)	0.42	
Intermediat	e Results							
Segment Vertica	Class	1		Free-Flo	w Speed,	mi/h	55.9	
Speed Slope Coe	efficient	3.59176		Speed Po	ower Coet	fficient	0.41674	
PF Slope Coeffic	ent	-1.32959		PF Power Coefficient		ent	0.74990	
n Passing Lane I	ffective Length?	No		Total Segment Density, veh/mi/ln			8.8	
%Improved % Fo	llowers	0.0		% Improved Avg Speed			0.0	
Subsegmen	t Data							
# Segment T	ype	Length, ft	Rac	lius, ft		Superelevation, %	Average Speed, mi/h	
I Tangent		5280	-			-	53.0	
Vehicle Res	ılts	·						
Average Speed,	mi/h	53.0		Percent	Followers,	%	64.7	
Segment Travel	Time, minutes	1.13	1.13		Density,	followers/mi/ln	8.8	
/ehicle LOS		С						
Facility Resu	ılts							
т	Follower	r Density, followers	/mi/ln			LC	os	
1	1 8.8				C			

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1_SR 29 – North of Lodi Lane (NB) – Saturday PM – B+P.xuf

Project Info	ormation					
Analyst		KT		Date		6/2/2021
Agency		W-Trans		Analysis Year		2021
Jurisdiction		County of Napa		Time Period Analy	zed	Saturday PM Baseline plus Project
Project Descript	tion	SR 29 – North of Lodi (SB) – Saturday PM	Lane	Unit		United States Customary
		S	egn	nent 1		
Vehicle Inp	uts					
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 ar	nd Capacity					
Directional Den	nand Flow Rate, veh/h	718		Opposing Deman	d Flow Rate, veh/h	-
Peak Hour Facto	or	0.96		Total Trucks, %		2.00
Segment Capacity, veh/h		1700		Demand/Capacity	(D/C)	0.42
Intermedia	te Results					
Segment Vertice	al Class	1		Free-Flow Speed,	mi/h	54.4
Speed Slope Co	pefficient	3.51046		Speed Power Coe	fficient	0.41674
PF Slope Coeffic	cient	-1.34026		PF Power Coeffici	ent	0.74575
In Passing Lane	Effective Length?	No		Total Segment De	nsity, veh/mi/ln	9.0
%Improved % F	ollowers	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	-		-	51.6
Vehicle Res	ults					
Average Speed,	mi/h	51.6		Percent Followers	, %	64.9
Segment Travel	Time, minutes	1.16		Follower Density,	followers/mi/ln	9.0
Vehicle LOS		С				
Facility Res	ults					
т	Follower	Density, followers/mi/	/In		LO	S
1		9.0			C	
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1_SR 29 - North of Lodi Lane (SB) - Saturday PM - B+P.xuf

HCS7 Two-Lane Highway Report

		HCS7 Two	o-Lane	Highv	way Re	eport		
Project I	nformation							
Analyst		KT		Date			6/2/2021	
Agency		W-Trans		Analysis	Year		2021	
Jurisdiction		County of Napa		Time Per	iod Analy	Saturday PM Baseline plus Project		
Project Desc	cription	SR 29 – South of Lodi Lane (NB) – Saturday PM		Unit			United States Customary	
			Segn	nent 1				
Vehicle I	nputs							
Segment Ty	pe	Passing Constrai	ined	Length,	ft		5280	
Lane Width, ft 12				Shoulde	r Width, ft	t	6	
Speed Limit	, mi/h	50		Access P	oint Dens	ity, pts/mi	4.0	
Demand	and Capacity						·	
Directional I	Demand Flow Rate, veh/h	735		Opposin	g Deman	d Flow Rate, veh/h	-	
Peak Hour F	actor	0.96		Total Tru	cks, %		2.00	
Segment Capacity, veh/h		1700		Demand	/Capacity	(D/C)	0.43	
Intermed	diate Results							
Segment Ve	ertical Class	1		Free-Flo	w Speed,	mi/h	55.9	
Speed Slope	e Coefficient	3.59176		Speed Po	ower Coet	fficient	0.41674	
PF Slope Co	efficient	-1.32959		PF Power Coefficient		ent	0.74990	
In Passing L	ane Effective Length?	No		Total Segment Density, veh/mi/ln		nsity, veh/mi/ln	9.1	
%Improved	% Followers	0.0		% Improved Avg Speed			0.0	
Subsegn	nent Data						·	
# Segm	ent Type	Length, ft	Rad	lius, ft		Superelevation, %	Average Speed, mi/h	
1 Tange	ent	5280	-			-	53.0	
Vehicle F	Results							
Average Spe	eed, mi/h	53.0		Percent	Followers,	%	65.2	
Segment Tra			1.13		Density,	followers/mi/ln	9.1	
Vehicle LOS		С						
Facility F	Results							
т	Followe	r Density, follower	s/mi/ln			LC	os	
1		9.1			C			

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2_SR 29 – South of Lodi Lane (NB) – Saturday PM – B+P.xuf

Segr	ment Type		Passing Constrain	ned	Length, f	t		5280
Lane	Width, ft		12		Shoulder	Width, f	t	6
Spee	ed Limit, mi/h		50		Access P	oint Dens	ity, pts/mi	10.0
Dei	mand and	Capacity						
Dire	ctional Demar	nd Flow Rate, veh/h	729		Opposin	g Deman	d Flow Rate, veh/h	-
Peak	Hour Factor		0.96		Total Tru	cks, %		2.00
Segment Capacity, veh/h			1700		Demand	/Capacity	(D/C)	0.43
Int	ermediate	Results						
Segr	ment Vertical (Class	1		Free-Flov	w Speed,	mi/h	54.4
Spee	ed Slope Coef	ficient	3.51046		Speed Po	ower Coe	0.41674	
PF S	lope Coefficie	nt	-1.34026		PF Power Coefficient			0.74575
In Pa	n Passing Lane Effective Length? No Total Segment Density, veh/mi/ln		nsity, veh/mi/ln	9.2				
%lm	proved % Foll	owers	0.0		% Impro	ved Avg S	Speed	0.0
Sul	segment	Data						-
#	Segment Ty	pe	Length, ft	Length, ft Rad			Superelevation, %	Average Speed, mi/h
1	Tangent		5280	-			-	51.5
Vel	nicle Resul	lts						
Aver	age Speed, m	i/h	51.5		Percent F	ollowers	, %	65.3
Segr	ment Travel Ti	me, minutes	1.16		Follower	Density,	followers/mi/ln	9.2
Vehi	cle LOS		С					
Fac	ility Resul	lts						
	т	Follower	Density, followers	s/mi/ln			LO	S
	1	9.2			C			

HCS7 Two-Lane Highway Report

Segment 1

Date

Analysis Year

Time Period Analyzed

12/4/2020

Saturday PM Baseline plus Project

United States Customary

2021

KT

W-Trans

County of Napa

SR 29 – South of Lodi Lane Unit (SB) – Saturday PM

Project Information

Analyst

Agency

Jurisdiction

Project Description

Vehicle Inputs

Dr	oject Information						
Pro	oject information						
Ana	alyst	KT		Date			6/2/2021
Age	ency	W-Trans		Analysis	Year		2021
Jurisdiction County of Napa				Time Per	riod Analy	zed	Saturday PM Baseline pl Project
Pro	ject Description	Lodi Ln – West of Project Driveway (EB) – Saturday PM		Unit			United States Customary
			Segr	nent 1			
Ve	hicle Inputs						
Seg	ment Type	Passing Constrai	ined	Length,	ft		5280
Lan	e Width, ft	14		Shoulde	r Width, ft	:	0
Spe	eed Limit, mi/h	45	Access P	oint Dens	ity, pts/mi	11.0	
De	emand and Capacity						·
Directional Demand Flow Rate, veh/h 70				Opposin	g Deman	d Flow Rate, veh/h	-
Pea	k Hour Factor	0.96		Total Tru	cks, %		2.00
Seg	ment Capacity, veh/h	1700		Demand	/Capacity	(D/C)	0.04
Int	termediate Results						·
Seg	ment Vertical Class	1		Free-Flo	w Speed,	mi/h	45.5
Spe	eed Slope Coefficient	3.02537		Speed Po	ower Coef	fficient	0.41674
PF S	Slope Coefficient	-1.38653		PF Power Coefficient			0.71808
In F	Passing Lane Effective Length?	No		Total Segment Density, veh/mi/ln			0.3
%In	mproved % Followers	0.0		% Improved Avg Speed			0.0
Su	bsegment Data						<u>'</u>
#	Segment Type	Length, ft	Rad	dius, ft		Superelevation, %	Average Speed, mi/h
1	Tangent	5280	-			-	45.5
Ve	hicle Results						<u>'</u>
Ave	erage Speed, mi/h	45.5		Percent	Followers,	%	18.5
Seg	ment Travel Time, minutes	1.32			Density, 1	followers/mi/ln	0.3
Veh	nicle LOS	А					
Fa	cility Results						
	T Followe	r Density, follower	s/mi/ln			LC)S
_	1 0.3				A		

				- 1			, ,	
De	mand and Capaci	ty						
Dire	ctional Demand Flow Rat	te, veh/h	70	- 1	Opposing Demand Flow Rate, veh/h		d Flow Rate, veh/h	-
Peak	Hour Factor		0.96		Total Tru	cks, %		2.00
Segi	ment Capacity, veh/h		1700		Demand	/Capacity	(D/C)	0.04
Int	ermediate Results	;						
Segi	ment Vertical Class		1		Free-Flov	w Speed,	mi/h	45.7
Speed Slope Coefficient		3.03892	:	Speed Po	ower Coe	fficient	0.41674	
PF Slope Coefficient		-1.38571		PF Powe	r Coefficie	ent	0.71894	
In Passing Lane Effective Length?		No		Total Seg	ment De	nsity, veh/mi/ln	0.3	
%Improved % Followers			0.0		% Improved Avg Speed		Speed	0.0
Sul	osegment Data							
#	Segment Type		Length, ft	Radiu	us, ft		Superelevation, %	Average Speed, mi/h
1	Tangent		5280 -				-	45.7
Vel	nicle Results							
Avei	age Speed, mi/h		45.7		Percent l	ollowers,	%	18.5
Segi	ment Travel Time, minute	s	1.31		Follower Density, followers/mi/ln		followers/mi/ln	0.3
Vehi	cle LOS		А					
Fac	ility Results							
ı ac		Follower	Density, followers/mi/l	ln			LO	os
ıac	Т	1 OHOWCI						
Tac	T	Tollower	0.3				Α	1

HCS7 Two-Lane Highway Report

Date

Unit

Length, ft

Shoulder Width, ft

Access Point Density, pts/mi

Segment 1

Analysis Year

Time Period Analyzed

6/2/2021

Saturday PM Baseline plus Project

United States Customary

2021

5280

10.0

KT

14

45

W-Trans

County of Napa

Lodi Ln – West of Project Driveway (WB) – Saturday PM

Passing Constrained

Project Information

Analyst

Agency

Jurisdiction

Project Description

Vehicle Inputs

Segment Type

Lane Width, ft

Speed Limit, mi/h

3_Lodi Ln – West of Project Driveway (EB) – Saturday PM – B+P.xuf

		HCS7 Two	o-Lane	High	way Re	eport			
Pro	ject Information								
Anal	lyst	KT		Date			6/2/2021		
Ager	ncy	W-Trans		Analysis	Year		2021		
Juris	diction	County of Napa			iod Analy	zed	Saturday PM Baseline plu Project		
Proje	Project Description Lodi Ln – East of Project Driveway (EB) – Saturda PM			Unit			United States Customary		
			Segn	nent 1					
Veł	nicle Inputs								
Segr	ment Type	Passing Constrai	ned	Length,	ft		5280		
Lane	Width, ft	14		Shoulde	r Width, f	t	0		
Speed Limit, mi/h 45				Access P	oint Dens	ity, pts/mi	0.0		
Dei	mand and Capacity	·							
Directional Demand Flow Rate, veh/h 62 O				Opposin	g Deman	d Flow Rate, veh/h	-		
Peak	Hour Factor	0.91		Total Tru	cks, %		3.00		
Segr	ment Capacity, veh/h	1700		Demand	/Capacity	(D/C)	0.04		
Inte	ermediate Results						<u>'</u>		
Segr	ment Vertical Class	1		Free-Flo	w Speed,	mi/h	48.2		
Spee	ed Slope Coefficient	3.17262		Speed Po	ower Coe	fficient	0.41674		
PF S	lope Coefficient	-1.37591		PF Power Coefficient			0.72726		
In Pa	assing Lane Effective Length?	No		Total Segment Density, veh/mi/ln			0.2		
%lm	proved % Followers	0.0		% Impro	5 Improved Avg Speed		0.0		
Suk	bsegment Data	·		_			<u>'</u>		
#	Segment Type	Length, ft	Rac	dius, ft		Superelevation, %	Average Speed, mi/h		
1	Tangent	5280	-			-	48.2		
Vel	nicle Results					1	'		
Aver	rage Speed, mi/h	48.2		Percent	Followers	. %	16.6		
Segr	ment Travel Time, minutes	1.24		Follower	Density,	followers/mi/ln	0.2		
Vehi	cle LOS	A							
Fac	ility Results								
	T Followe	r Density, follower	s/mi/ln			LC	os .		
	1	,				A			

		Facility Resul	lts		
r Density, followers/mi/ln	LOS	Т	Follower Density, follower	owers/mi/ln	
0.2	А	1	0.3		
Reserved. HCSTMM Two-Lane Version 4_Lodi Ln – East of Project Driveway (EB) – Sc		Copyright © 2021 Univ	versity of Florida. All Rights Reserved. 4_Lodi Ln – E	HCSTMI Two-Lane Version ast of Project Driveway (WB) – S	

		HCS7 Two-La	ne	Highv	vay Re	eport	
Project Infor	mation						
Analyst		KT		Date			6/2/2021
Agency		W-Trans		Analysis	s Year		2021
Jurisdiction		County of Napa	County of Napa		iod Analy	zed	Saturday PM Baseline plus Project
Project Descriptio	n	Lodi Ln – East of Project Driveway (WB) – Saturday PM		Unit			United States Customary
		Se	gn	nent 1			
Vehicle Inpu	ts						
Segment Type		Passing Constrained		Length, f	t		5280
Lane Width, ft		14		Shoulder	Width, f	t	0
Speed Limit, mi/h		45		Access P	oint Dens	sity, pts/mi	0.0
Demand and	l Capacity						
Directional Dema	nd Flow Rate, veh/h	78		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)	0.05
Intermediate	Results						
Segment Vertical	Class	1		Free-Flov	w Speed,	mi/h	48.2
Speed Slope Coef	ficient	3.17262		Speed Po	ower Coe	fficient	0.41674
PF Slope Coefficie	ent	-1.37591	-1.37591		PF Power Coefficient		0.72726
In Passing Lane Ef	fective Length?	No		Total Segment Density, veh/mi/ln			0.3
%Improved % Fol	lowers	0.0		% Improved Avg Speed			0.0
Subsegment	Data	·					
# Segment Ty	pe	Length, ft	Rad	ius, ft		Superelevation, %	Average Speed, mi/h
1 Tangent		5280	-			-	48.2
Vehicle Resu	lts					'	
Average Speed, m	ni/h	48.2		Percent F	ollowers	, %	19.4
Segment Travel Ti	me, minutes	1.24		Follower	Density,	followers/mi/ln	0.3
Vehicle LOS		А					
Facility Resu	lts						
т	Follower	Density, followers/mi/l	n			LO	S
1		0.3				A	

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		HCS7 Tw	o Earre	riigiiv	way ix	эрогс	
Pro	ject Information						
Anal	lyst	KT		Date			6/2/2021
Ager	ncy	W-Trans		Analysis	Year		2021
Juris	Jurisdiction County of Napa			Time Per	riod Analy	zed	Saturday PM Baseline plu Project
Proje	ect Description		Silverado Trail – North of Lodi Lane (NB) – Saturday PM				United States Customary
			Segn	nent 1			
Veł	nicle Inputs						
Segr	ment Type	Passing Constra	ined	Length,	ft		5280
Lane	Width, ft	dth, ft 12 Shoulder Width, ft					6
Spee	ed Limit, mi/h	45	45			ity, pts/mi	5.0
Dei	mand and Capacity	•					·
Dire	ctional Demand Flow Rate, veh/h	343		Opposin	ıg Deman	d Flow Rate, veh/h	-
Peak	Hour Factor	0.91		Total Tru	cks, %		3.00
Segr	ment Capacity, veh/h	1700		Demand	/Capacity	(D/C)	0.20
Inte	ermediate Results						·
Segr	ment Vertical Class	1		Free-Flo	w Speed,	mi/h	50.0
Spee	ed Slope Coefficient	3.26747		Speed Po	ower Coe	fficient	0.41674
PF S	lope Coefficient	-1.36740		PF Power Coefficient			0.73276
In Pa	assing Lane Effective Length?	No		Total Segment Density, veh/mi/ln			3.3
%lm	proved % Followers	0.0		% Improved Avg Speed			0.0
Suk	segment Data						·
#	Segment Type	Length, ft	Rad	dius, ft		Superelevation, %	Average Speed, mi/h
1	Tangent	5280	-			-	48.1
Vel	nicle Results	'				'	
Aver	age Speed, mi/h	48.1		Percent	Followers,	. %	46.4
Segr	ment Travel Time, minutes	1.25		Follower	Density,	followers/mi/In	3.3
Vehi	cle LOS	В					
Fac	ility Results						
	T Follow	er Density, follower	s/mi/ln			LC	os
1 3.3			В				

5_Silverado Trail - North of Lodi Lane (NB) - Saturday PM - B+P.xuf

		· · ·	·			
3.3	Segment Travel Ti	me, minutes	1.22	Follower	Density, followers/mi/ln	2.8
	Vehicle LOS		В			
	Facility Resul	ts				
;	т	Follower I	Density, followers/mi/ln		LOS	
	1		2.8		В	
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			5_Silverado Trail - North of Lodi L	ane (SB) – S	Saturday PM – B+P.xuf	

HCS7 Two-Lane Highway Report

Date

Unit

Length, ft

Shoulder Width, ft

Total Trucks, %

Demand/Capacity (D/C)

Free-Flow Speed, mi/h

PF Power Coefficient

% Improved Avg Speed

Percent Followers, %

Radius, ft

Speed Power Coefficient

Total Segment Density, veh/mi/ln

Superelevation, %

Access Point Density, pts/mi

Opposing Demand Flow Rate, veh/h

Segment 1

Analysis Year

Time Period Analyzed

6/2/2021

Saturday PM Baseline plus

United States Customary

2021

Project

5280

1.0

3.00

0.19

51.0

0.41674

0.73580

Average Speed, mi/h

2.8

0.0

49.2

44.2

КТ

12

45

315

0.91

1700

3.32167

-1.36197

Length, ft

5280

49.2

No

0.0

W-Trans

County of Napa

Silverado Trail – North of

Lodi Lane (SB) - Saturday

Passing Constrained

Project Information

Analyst

Agency

Jurisdiction

Project Description

Vehicle Inputs

Speed Limit, mi/h

Peak Hour Factor

Segment Capacity, veh/h

Segment Vertical Class

PF Slope Coefficient

Speed Slope Coefficient

%Improved % Followers

Segment Type

Tangent

Vehicle Results

Average Speed, mi/h

Intermediate Results

In Passing Lane Effective Length?

Demand and Capacity

Directional Demand Flow Rate, veh/h

Segment Type Lane Width, ft

Pro	ject Information	ı						
Anal	yst		KT		Date			6/2/2021
Ager	ncy		W-Trans		Analysis	Year		2021
Juris	diction		County of Napa		Time Per	iod Analy	zed	Saturday PM Baseline plu Project
Proje	ect Description		Silverado Trail – : Lodi Lane (NB) – PM		Unit			United States Customary
				Segr	nent 1			
Veh	nicle Inputs							
Segr	nent Type		Passing Constrai	ned	Length, f	ft		5280
Lane	Width, ft		12		Shoulder	r Width, f	t	6
Spee	ed Limit, mi/h		45		Access P	oint Dens	ity, pts/mi	5.0
Der	mand and Capac	ity						·
Direc	rectional Demand Flow Rate, veh/h 368 Or		Opposin	Opposing Demand Flow Rate, veh/h		-		
Peak	Hour Factor		0.91		Total Trucks, %		3.00	
Segr	ment Capacity, veh/h		1700	Demand/Capacity (D/C)		0.22		
Inte	ermediate Result	:s						
Segn	ment Vertical Class		1		Free-Flov	low Speed, mi/h		50.0
Spee	ed Slope Coefficient		3.26747		Speed Po	Speed Power Coefficient		0.41674
PF SI	lope Coefficient		-1.36740		PF Powe	r Coefficie	ent	0.73276
In Pa	ssing Lane Effective Le	ngth?	No		Total Seg	gment De	nsity, veh/mi/ln	3.7
%lm	proved % Followers		0.0		% Improved Avg		Speed	0.0
Suk	segment Data							·
#	Segment Type		Length, ft	Rai	dius, ft		Superelevation, %	Average Speed, mi/h
1	Tangent		5280	-			-	48.1
Veh	nicle Results		<u>'</u>				<u>'</u>	
Aver	age Speed, mi/h		48.1		Percent I	Percent Followers, %		48.2
Segment Travel Time, minutes		1.25		Follower Density, followers/mi/ln		followers/mi/ln	3.7	
Vehicle LOS B								
Fac	ility Results							
	т	Follower	r Density, follower	s/mi/ln			LC	os
	1		3.7				F	1

Pro	oject Infor	mation						
Anal	lyst		KT		Date			6/2/2021
Age	ncy		W-Trans		Analysis	Year		2021
Juris	sdiction		County of Napa	County of Napa		iod Analy	zed	Saturday PM Baseline pl Project
Proje	ect Descriptio	n	Silverado Trail – S Lodi Lane (SB) – S PM		Unit			United States Customary
				Segn	nent 1			
Vel	hicle Inpu	ts						
Segr	ment Type		Passing Constrain	ned	Length, f	t		5280
Lane	e Width, ft		12		Shoulder	Width, ft		6
Spe	ed Limit, mi/h		45		Access P	oint Dens	ity, pts/mi	1.0
De	mand and	l Capacity						
Dire	ctional Dema	nd Flow Rate, veh/h	321 Opposing Demand Flow Rate, veh/h		-			
Peak	Hour Factor		0.91		Total Trucks, %		3.00	
Segr	ment Capacity	y, veh/h	1700		Demand/Capacity (D/C)			0.19
Int	ermediate	Results						
Segr	ment Vertical	Class	1	1 Free-Flow Spee		v Speed,	mi/h	51.0
Spe	ed Slope Coef	fficient	3.32167	3.32167 Speed Pow		Speed Power Coefficient		0.41674
PF S	lope Coefficie	ent	-1.36197		PF Power Coefficient		0.73580	
In Pa	assing Lane Ef	ffective Length?	No		Total Segment Density, veh/mi/ln		2.9	
%lm	proved % Fol	lowers	0.0 % Imp		% Impro	% Improved Avg Speed		0.0
Sul	bsegment	: Data						
#	Segment Ty	/pe	Length, ft	Rac	lius, ft		Superelevation, %	Average Speed, mi/h
1	Tangent		5280	-			-	49.2
Vel	hicle Resu	lts						
Aver	rage Speed, m	ni/h	49.2		Percent I	Percent Followers, %		44.6
Segr	ment Travel Ti	ime, minutes	1.22		Follower	Density, 1	followers/mi/ln	2.9
Vehi	icle LOS		В					
Fac	ility Resu	lts						
	т	Follower	Density, followers	/mi/ln			LC	S
	1	ĺ	2.9				E	

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

HCS7 Two-Lane Highway Report

Project Information				
	 KT	D.A.		12/4/20
Analyst	1	Date		12/4/20
Agency	W-Trans	Analysis Year		2020
Jurisdiction	County of Napa	Time Period Ana	lyzed	Friday PM Future plus Project
Project Description	SR 29 – North of Lodi La (NB) – Friday PM	ne Unit		United States Customary
	Seg	ment 1		
Vehicle Inputs				
Segment Type	Passing Constrained	Length, ft		5280
Lane Width, ft	12	Shoulder Width,	ft	6
Speed Limit, mi/h	50	Access Point Der	nsity, pts/mi	4.0
Demand and Capacity				
Directional Demand Flow Rate, veh/h	1017	Opposing Dema	nd Flow Rate, veh/h	-
Peak Hour Factor	1.00	Total Trucks, %		4.00
Segment Capacity, veh/h	1700	Demand/Capaci	ty (D/C)	0.60
Intermediate Results				
Segment Vertical Class	1	Free-Flow Speed	l, mi/h	55.9
Speed Slope Coefficient	3.58815	Speed Power Co	efficient	0.41674
PF Slope Coefficient	-1.32983	PF Power Coeffic	ient	0.75000
In Passing Lane Effective Length?	No	Total Segment D	ensity, veh/mi/ln	14.4
%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 -		-	52.4
Vehicle Results				
Average Speed, mi/h	52.4	Percent Follower	rs, %	74.0
Segment Travel Time, minutes	1.14	Followers Densit	y, followers/mi/ln	14.4
Vehicle LOS	D	i		

Project Information						
Analyst	KT		Date		12/4/2020	
Agency	W-Trans		Analysis Year		2020	
Jurisdiction	County of Napa		Time Period Ana	lyzed	Friday PM Future plus Project	
Project Description	SR 29 – North o (SB) – Friday PM		Unit		United States Customa	
		Segn	nent 1			
Vehicle Inputs						
Segment Type	Passing Constra	ined	Length, ft		5280	
Lane Width, ft	12		Shoulder Width,	ft	6	
Speed Limit, mi/h	50	50		nsity, pts/mi	10.0	
Demand and Capacity						
Directional Demand Flow Rate, veh/h	935	935		nd Flow Rate, veh/h	-	
Peak Hour Factor	1.00		Total Trucks, %		4.00	
Segment Capacity, veh/h	1700		Demand/Capacit	ty (D/C)	0.55	
Intermediate Results						
Segment Vertical Class	1		Free-Flow Speed	, mi/h	54.4	
Speed Slope Coefficient	3.50685		Speed Power Co	efficient	0.41674	
PF Slope Coefficient	-1.34047		PF Power Coefficient		0.74585	
In Passing Lane Effective Length?	No		Total Segment Density, veh/mi/ln		13.2	
%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	<u> </u>					
Average Speed, mi/h	51.1		Percent Follower	s, %	72.1	
Segment Travel Time, minutes	1.17		Followers Densit	y, followers/mi/ln	13.2	
	D		1		1	

	HCS7 Two-Lar	ne Highway Rep	oort		
Project Information					
Analyst	KT	Date		12/4/2020	
Agency	W-Trans	Analysis Year		2020	
Jurisdiction	County of Napa	Time Period Analyze	d	Friday PM Future plus Project	
Project Description	SR 29 – South of Lodi La (NB) – Friday PM	ne Unit		United States Customary	
	Seg	gment 1			
Vehicle Inputs					
Segment Type	Passing Constrained	Length, ft		5280	
Lane Width, ft	12	Shoulder Width, ft	Shoulder Width, ft		
Speed Limit, mi/h	50	Access Point Density	Access Point Density, pts/mi		
Demand and Capacity					
Directional Demand Flow Rate, veh/h	1021	Opposing Demand	Flow Rate, veh/h	-	
Peak Hour Factor	1.00	Total Trucks, %		4.00	
Segment Capacity, veh/h	1700	Demand/Capacity (I	Demand/Capacity (D/C)		
Intermediate Results					
Segment Vertical Class	1	Free-Flow Speed, m	i/h	55.9	
Speed Slope Coefficient	3.58815	Speed Power Coeffic	cient	0.41674	
PF Slope Coefficient	-1.32983	PF Power Coefficien	t	0.75000	
In Passing Lane Effective Length?	No	Total Segment Dens	ity, veh/mi/ln	14.4	
%Improved % Followers	0.0	% Improved Avg Sp	eed	0.0	
Subsegment Data		·			
# Segment Type	Length, ft	Radius, ft S	Superelevation, %	Average Speed, mi/h	
1 Tangent	5280 -	-		52.4	
Vehicle Results					
Average Speed, mi/h	52.4	Percent Followers, %	Ď	74.1	
Segment Travel Time, minutes	1.15	Followers Density, fo	ollowers/mi/ln	14.4	
Vehicle LOS	D				

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

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 Vehicle Results

 Average Speed, mi/h
 51.0
 Percent Followers, %
 73.9

 Segment Travel Time, minutes
 1.18
 Followers Density, followers/mi/ln
 14.5

 Vehicle LOS
 D
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 2_SR 29 – South of Lodi Lane (SB) – Friday PM – F+P.xuf

Radius, ft

HCS7 Two-Lane Highway Report

Segment 1

Length, ft

Shoulder Width, ft

Total Trucks, %

Demand/Capacity (D/C)

Free-Flow Speed, mi/h

PF Power Coefficient

% Improved Avg Speed

Speed Power Coefficient

Total Segment Density, veh/mi/ln

Superelevation, %

Access Point Density, pts/mi

Opposing Demand Flow Rate, veh/h

Date

Analysis Year

Time Period Analyzed

12/4/2020

Friday PM Future plus Project

United States Customary

2020

5280

10.0

4.00

0.59

54.4

0.41674

0.74585

Average Speed, mi/h

14.5

0.0

51.0

КТ

12

50

1002

1.00

1700

3.50685

No

0.0

-1.34047

Length, ft

5280

W-Trans

County of Napa

(SB) - Friday PM

Passing Constrained

SR 29 – South of Lodi Lane Unit

Project Information

Analyst

Agency

Jurisdiction

Project Description

Vehicle Inputs

Segment Type

Lane Width, ft

Speed Limit, mi/h

Peak Hour Factor

Segment Capacity, veh/h

Segment Vertical Class

Speed Slope Coefficient

%Improved % Followers

Segment Type

Tangent

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PF Slope Coefficient

Intermediate Results

In Passing Lane Effective Length?

	HCS7 Tw	o-Lane	Highway	Report		
Project Information						
Analyst	KT		Date		12/4/2020	
Agency	W-Trans		Analysis Year		2020	
Jurisdiction	County of Napa	ı	Time Period An	alyzed	Friday PM Future plus Project	
Project Description	Lodi Ln – West o Driveway (EB) –		Unit		United States Customary	
		Segn	nent 1			
Vehicle Inputs						
Segment Type	Passing Constra	ined	Length, ft		5280	
Lane Width, ft	14		Shoulder Width, ft		0	
Speed Limit, mi/h	45		Access Point Density, pts/mi		11.0	
Demand and Capacity						
Directional Demand Flow Rate, v	eh/h 74	74 Opposing Demand Flor		and Flow Rate, veh/h	-	
Peak Hour Factor	1.00		Total Trucks, %		4.00	
Segment Capacity, veh/h	1700		Demand/Capacity (D/C)		0.04	
Intermediate Results						
Segment Vertical Class	1		Free-Flow Spee	d, mi/h	45.4	
Speed Slope Coefficient	3.02176		Speed Power C	oefficient	0.41674	
PF Slope Coefficient	-1.38649		PF Power Coeff	icient	0.71813	
In Passing Lane Effective Length	? No		Total Segment	Density, veh/mi/ln	0.3	
%Improved % Followers	0.0		% Improved Av	g Speed	0.0	
Subsegment Data	-					
# Segment Type	Length, ft	Rac	dius, ft	Superelevation, %	Average Speed, mi/h	
1 Tangent	5280	-	-		45.4	
Vehicle Results						
Average Speed, mi/h	45.4		Percent Followe	ers, %	19.2	
Segment Travel Time, minutes	1.32		Followers Dens	ity, followers/mi/ln	0.3	
Vehicle LOS	A					

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

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 Vehicle Results

 Average Speed, mi/h
 44.9
 Percent Followers, %
 28.2

 Segment Travel Time, minutes
 1.34
 Followers Density, followers/mi/ln
 0.9

 Vehicle LOS
 A
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 3_Lodi Ln – West of Project Driveway (WB) – Friday PM – F+P.xuf
 Generated: 12/06/2020 22:22:14

Radius, ft

HCS7 Two-Lane Highway Report

Date

Unit

Length, ft

Shoulder Width, ft

Total Trucks, %

Demand/Capacity (D/C)

Free-Flow Speed, mi/h

PF Power Coefficient

% Improved Avg Speed

Speed Power Coefficient

Total Segment Density, veh/mi/ln

Superelevation, %

Access Point Density, pts/mi

Opposing Demand Flow Rate, veh/h

Segment 1

Analysis Year

Time Period Analyzed

12/4/2020

Friday PM Future plus Project

United States Customary

2020

5280

10.0

4.00

0.08

45.7

0.41674

0.71899

Average Speed, mi/h

0.9

0.0

44.9

КТ

14

45

137

1.00

1700

3.03531

No

0.0

-1.38568

Length, ft

5280

W-Trans

County of Napa

Lodi Ln – West of Project

Driveway (WB) - Friday PM

Passing Constrained

Project Information

Analyst

Agency

Jurisdiction

Project Description

Vehicle Inputs

Segment Type

Lane Width, ft

Speed Limit, mi/h

Peak Hour Factor

Segment Capacity, veh/h

Segment Vertical Class

Speed Slope Coefficient

%Improved % Followers

Segment Type

Tangent

Generated: 12/06/2020 22:21:48

PF Slope Coefficient

Intermediate Results

In Passing Lane Effective Length?

	HCS7 Tw	o-Lane	Highway	Report		
Project Information						
Analyst	KT		Date		12/4/2020	
Agency	W-Trans		Analysis Year		2020	
Jurisdiction	County of Napa	1	Time Period An	alyzed	Friday PM Future plus Project	
Project Description	Lodi Ln – East o Driveway (EB) –		Unit		United States Customary	
		Segn	nent 1			
Vehicle Inputs						
Segment Type	Passing Constra	ined	Length, ft		5280	
Lane Width, ft	14		Shoulder Width, ft		0	
Speed Limit, mi/h	45		Access Point Density, pts/mi		11.0	
Demand and Capacity						
Directional Demand Flow Rate, v	eh/h 91	91 Op		and Flow Rate, veh/h	-	
Peak Hour Factor	1.00		Total Trucks, %		2.00	
Segment Capacity, veh/h	1700		Demand/Capacity (D/C)		0.05	
Intermediate Results						
Segment Vertical Class	1		Free-Flow Spee	d, mi/h	45.5	
Speed Slope Coefficient	3.02537		Speed Power Co	oefficient	0.41674	
PF Slope Coefficient	-1.38653		PF Power Coeff	icient	0.71808	
In Passing Lane Effective Length?	No No		Total Segment	Density, veh/mi/ln	0.4	
%Improved % Followers	0.0		% Improved Av	g Speed	0.0	
Subsegment Data						
# Segment Type	Length, ft	Rad	dius, ft	Superelevation, %	Average Speed, mi/h	
1 Tangent	5280	-	-		45.5	
Vehicle Results						
Average Speed, mi/h	45.5		Percent Followe	ers, %	22.0	
Segment Travel Time, minutes	1.32		Followers Dens	ity, followers/mi/ln	0.4	
Vehicle LOS	А					

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

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Subsegment Data Segment Type Length, ft Radius, ft Superelevation, % Average Speed, mi/h Tangent 5280 47.5 Vehicle Results Average Speed, mi/h 47.5 Percent Followers, % 26.7 Segment Travel Time, minutes 1.26 Followers Density, followers/mi/ln 0.7 Vehicle LOS Copyright © 2020 University of Florida. All Rights Reserved. HCS TIM 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-Lane Highway Report

Date

Unit

Length, ft

Shoulder Width, ft

Total Trucks, %

Demand/Capacity (D/C)

Free-Flow Speed, mi/h

PF Power Coefficient

% Improved Avg Speed

Speed Power Coefficient

Total Segment Density, veh/mi/ln

Access Point Density, pts/mi

Opposing Demand Flow Rate, veh/h

Segment 1

Analysis Year

Time Period Analyzed

12/4/20

Friday PM Future plus Project

United States Customary

2020

5280

0.0

2.00

0.08

48.2

0.41674

0.72723

0.7

0.0

КТ

14

45

129

1.00

1700

3.17442

No

0.0

-1.37589

W-Trans

County of Napa

Lodi Ln – East of Project

Passing Constrained

Driveway (WB) - Friday PM

Project Information

Analyst

Agency

Jurisdiction

Project Description

Vehicle Inputs

Segment Type

Lane Width, ft

Speed Limit, mi/h

Peak Hour Factor

Segment Capacity, veh/h

Segment Vertical Class

Speed Slope Coefficient

%Improved % Followers

PF Slope Coefficient

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Intermediate Results

In Passing Lane Effective Length?

	HCS7 Two-Lan	e Highway Report		
Project Information				
Analyst	KT	Date	12/4/20	
Agency	W-Trans	Analysis Year	2020	
Jurisdiction	County of Napa	Time Period Analyzed	Friday PM Future plus Project	
Project Description	Silverado Trail – North of Lodi Lane (NB) – Friday P		United States Customary	
	Seg	ment 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	5.0	
Demand and Capacity				
Directional Demand Flow Rate, veh/l	h 445	Opposing Demand Flow Rate, veh/h	-	
Peak Hour Factor	1.00	Total Trucks, %	2.00	
Segment Capacity, veh/h	1700	Demand/Capacity (D/C)	0.26	
Intermediate Results				
Segment Vertical Class	1	Free-Flow Speed, mi/h	50.0	
Speed Slope Coefficient	3.26927	Speed Power Coefficient	0.41674	
PF Slope Coefficient	-1.36736	PF Power Coefficient	0.73272	
In Passing Lane Effective Length?	No	Total Segment Density, veh/mi/ln	4.9	
%Improved % Followers	0.0	% Improved Avg Speed	0.0	
Subsegment Data				
# Segment Type	Length, ft R	adius, ft Superelevation, %	Average Speed, mi/h	
1 Tangent	5280 -	-	47.9	
Vehicle Results				
Average Speed, mi/h	47.9	Percent Followers, %	53.0	
Segment Travel Time, minutes	1.25	Followers Density, followers/mi/ln	4.9	
Vehicle LOS	В			

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

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Average Speed, mi/h Segment Travel Time, minutes 1.23 Followers Density, followers/mi/ln 4.4 Vehicle LOS Copyright © 2020 University of Florida. All Rights Reserved. HCS TIM Two-Lane Version 7.8 Generated: 12/06/2020 22:24:13 5_Silverado Trail - North of Lodi Lane (SB) - Friday PM - F+P.xuf

Radius, ft

HCS7 Two-Lane Highway Report

Date

Unit

Length, ft

Shoulder Width, ft

Total Trucks, %

Demand/Capacity (D/C)

Free-Flow Speed, mi/h

PF Power Coefficient

% Improved Avg Speed

Percent Followers, %

Speed Power Coefficient

Total Segment Density, veh/mi/ln

Superelevation, %

Access Point Density, pts/mi

Opposing Demand Flow Rate, veh/h

Segment 1

Analysis Year

Time Period Analyzed

12/4/20

Friday PM Future plus Project

United States Customary

2020

5280

1.0

2.00

0.25

51.0

0.41674

0.73576

Average Speed, mi/h

4.4

0.0

48.9

51.2

КТ

12

45

419

1.00

1700

3.32347

No

0.0

-1.36191

Length, ft

5280

48.9

W-Trans

County of Napa

Silverado Trail – North of

Lodi Lane (SB) – Friday PM

Passing Constrained

Project Information

Analyst

Agency

Jurisdiction

Project Description

Vehicle Inputs

Segment Type

Lane Width, ft

Speed Limit, mi/h

Peak Hour Factor

Segment Capacity, veh/h

Segment Vertical Class

Speed Slope Coefficient

%Improved % Followers

Subsegment Data Segment Type

Tangent

Vehicle Results

Generated: 12/06/2020 22:23:43

PF Slope Coefficient

Intermediate Results

In Passing Lane Effective Length?

		e Highway Repo		
Project Information				
Analyst	KT	Date		12/4/20
Agency	W-Trans	Analysis Year		2020
Jurisdiction	County of Napa	Time Period Analyzed		Friday PM Future plus Project
Project Description	Silverado Trail – South of Lodi Lane (NB) – Friday P			United States Customary
	Seg	ment 1		
Vehicle Inputs				
Segment Type	Passing Constrained	Length, ft		5280
Lane Width, ft	12	Shoulder Width, ft	Shoulder Width, ft	
Speed Limit, mi/h	45	Access Point Density, pts/mi		5.0
Demand and Capacity				
Directional Demand Flow Rate, veh/h	483	Opposing Demand Flo	w Rate, veh/h	-
Peak Hour Factor	1.00	Total Trucks, %	Total Trucks, %	
Segment Capacity, veh/h	1700	Demand/Capacity (D/C)		0.28
Intermediate Results				
Segment Vertical Class	1	Free-Flow Speed, mi/h	ı	50.0
Speed Slope Coefficient	3.26927	Speed Power Coefficie	nt	0.41674
PF Slope Coefficient	-1.36736	PF Power Coefficient		0.73272
In Passing Lane Effective Length?	No	Total Segment Density	, veh/mi/ln	5.6
%Improved % Followers	0.0	% Improved Avg Spee	d	0.0
Subsegment Data				
# Segment Type	Length, ft F	tadius, ft Sup	perelevation, %	Average Speed, mi/h
1 Tangent	5280 -	-		47.8
Vehicle Results				
Average Speed, mi/h	47.8	Percent Followers, %		55.2
Segment Travel Time, minutes	1.26	Followers Density, follo	owers/mi/ln	5.6
Vehicle LOS	С			

Vehicle LOS

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

Generated: 12/06/2020 22:28:23

	HCS7 Two-Lai		1	
Project Information				
Analyst	KT	Date		12/4/20
Agency	W-Trans	Analysis Year		2020
Jurisdiction	County of Napa	Time Period Analy	/zed	Friday PM Future plus Project
Project Description	Silverado Trail – South o Lodi Lane (SB) – Friday I			United States Customar
	Se	gment 1		
Vehicle Inputs				
Segment Type	Passing Constrained	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	419	Opposing Deman	d Flow Rate, veh/h	-
Peak Hour Factor	1.00	Total Trucks, %		2.00
Segment Capacity, veh/h	1700	Demand/Capacity	/ (D/C)	0.25
Intermediate Results				
Segment Vertical Class	1	Free-Flow Speed,	mi/h	51.0
Speed Slope Coefficient	3.32347	Speed Power Coe	fficient	0.41674
PF Slope Coefficient	-1.36191	PF Power Coeffici	ent	0.73576
In Passing Lane Effective Length?	No	Total Segment De	nsity, veh/mi/ln	4.4
%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	-	-	48.9
Vehicle Results				
Average Speed, mi/h	48.9	Percent Followers	, %	51.2
Segment Travel Time, minutes	1.23	Followers Density	, followers/mi/ln	4.4
Vehicle LOS	В			

		HCS7 Two	o-Lane	High	way Report	
Project Inf	ormation					
Analyst		KT		Date		6/2/2021
Agency		W-Trans		Analysis	Year	2021
Jurisdiction		County of Napa		Time Per	iod Analyzed	Saturday PM Future plus Project
Project Descrip	tion	SR 29 – North of (NB) – Saturday		Unit		United States Customary
		<u>'</u>	Segn	nent 1		
Vehicle Inp	outs					
Segment Type		Passing Constrai	ned	Length,	ft	5280
Lane Width, ft		12		Shoulde	r Width, ft	6
Speed Limit, m	i/h	50		Access P	oint Density, pts/mi	4.0
Demand a	nd Capacity					
Directional De	mand Flow Rate, veh/h	1018		Opposing Demand Flow Rate, veh/h		-
Peak Hour Fact	or	1.00		Total Tru	cks, %	2.00
Segment Capa	apacity, veh/h 1700		Demand	/Capacity (D/C)	0.60	
Intermedia	nte Results					
Segment Vertic	al Class	1	1 F		w Speed, mi/h	55.9
Speed Slope C	pefficient	3.59176		Speed P	ower Coefficient	0.41674
PF Slope Coeff	icient	-1.32959		PF Power Coefficient		0.74990
In Passing Lane	Effective Length?	No	No		gment Density, veh/mi/ln	14.4
%Improved %	Followers	0.0	0.0		ved Avg Speed	0.0
Subsegme	nt Data					
# Segment	Туре	Length, ft	Rad	lius, ft	Superelevation, %	Average Speed, mi/h
1 Tangent		5280	-		-	52.5
Vehicle Re	sults	'			<u> </u>	'
Average Speed	l, mi/h	52.5		Percent Followers, %		74.0
Segment Travel Time, minutes 1.14		Follower Density, followers/mi/ln		14.4		
Vehicle LOS		D				
Facility Re	sults					
т	Followe	r Density, follower	s/mi/ln			LOS
1		14.4				D

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

		HC3/ IW0-	HCS7 Two-Lane Highway Report						
Project Info	ormation								
Analyst		KT		Date	Date		6/2/2021		
Agency		W-Trans	W-Trans Ar		Year		2021		
Jurisdiction		County of Napa		Time Per	iod Analy	zed	Saturday PM Future pl Project		
Project Descript	ion	SR 29 – North of Lo (SB) – Saturday PM		Unit			United States Customa		
			Segn	nent 1					
Vehicle Inp	uts								
Segment Type		Passing Constrained	d	Length, f	t		5280		
Lane Width, ft		12		Shoulde	Width, f	t	6		
Speed Limit, mi,	'h	50		Access P	oint Dens	sity, pts/mi	10.0		
Demand an	d Capacity								
Directional Demand Flow Rate, veh/h		980	980		g Deman	-			
Peak Hour Factor		1.00	1.00		cks, %	2.00			
Segment Capacity, veh/h		1700		Demand	/Capacity	(D/C)	0.58		
Intermedia	te Results								
Segment Vertica	I Class	1		Free-Flo	w Speed,	mi/h	54.4		
Speed Slope Co	efficient	3.51046	3.51046		ower Coe	fficient	0.41674		
PF Slope Coeffic	ient	-1.34026		PF Powe	r Coefficie	ent	0.74575		
In Passing Lane	Effective Length?	No		Total Seg	ment De	nsity, veh/mi/ln	14.1		
%Improved % F	ollowers	0.0		% Impro	ved Avg S	Speed	0.0		
Subsegmer	t Data	·							
# Segment	Гуре	Length, ft	Rad	lius, ft		Superelevation, %	Average Speed, mi/h		
1 Tangent		5280	-			-	51.1		
Vehicle Res	ults								
Average Speed,	mi/h	51.1		Percent Followers, %		73.3			
Segment Travel Time, minutes		1.17		Follower Density, followers/mi/ln		14.1			
Vehicle LOS		D							
Facility Res	ults								
т	Followe	er Density, followers/n	ni/ln			LC	os		
1 14.1			D						

		HCS7 Two	o-Lane	High	way Rep	ort	
Project Info	ormation						
Analyst		KT		Date			6/2/2021
Agency		W-Trans		Analysis	Year		2021
Jurisdiction		County of Napa		Time Per	riod Analyze	d	Saturday PM Future plu: Project
Project Descript	ion	SR 29 – South of (NB) – Saturday		Unit			United States Customar
			Segn	nent 1			
Vehicle Inp	uts						
Segment Type		Passing Constrai	ned	Length,	ft		5280
Lane Width, ft		12		Shoulde	r Width, ft		6
Speed Limit, mi,	/h	50		Access F	oint Density	, pts/mi	4.0
Demand an	d Capacity						
Directional Dem	Directional Demand Flow Rate, veh/h		1028		g Demand F	-	
Peak Hour Factor		1.00		Total Tru	icks, %	2.00	
Segment Capacity, veh/h		1700		Demand	l/Capacity (E	D/C)	0.60
Intermedia	te Results						<u>'</u>
Segment Vertica	ıl Class	1		Free-Flo	w Speed, mi	/h	55.9
Speed Slope Co	efficient	3.59176		Speed P	ower Coeffic	cient	0.41674
PF Slope Coeffic	ient	-1.32959		PF Power Coefficient			0.74990
In Passing Lane	Effective Length?	No		Total Segment Density, veh/mi/ln			14.6
%Improved % F	ollowers	0.0		% Improved Avg Speed			0.0
Subsegmer	nt Data						
# Segment	Туре	Length, ft	Rac	dius, ft Superelevation, %		Average Speed, mi/h	
1 Tangent		5280	-	-		52.5	
Vehicle Res	ults	<u>'</u>					
Average Speed,	mi/h	52.5		Percent	Followers, %	74.3	
Segment Travel Time, minutes		1.14		Follower Density, followers/mi/ln			14.6
Vehicle LOS		D					
Facility Res	ults						
т	Followe	r Density, follower	s/mi/ln			LC	os
1		14.6		D			

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

Analyst		KT		Date			6/2/2021
Agency		W-Trans		Analysis Year			2021
Jurisdiction		County of Napa		Time Period Analyzed			Saturday PM Future plus Project
Project Descript	tion	SR 29 – South of Lo (SB) – Saturday PM		Unit			United States Customary
			Segn	nent 1			
Vehicle Inp	uts						
Segment Type		Passing Constraine	d	Length, f	t		5280
Lane Width, ft		12		Shoulder	Width, f	t	6
Speed Limit, mi	/h	50		Access P	oint Dens	ity, pts/mi	10.0
Demand ar	nd Capacity						
Directional Den	nand Flow Rate, veh/h	991		Opposin	g Deman	d Flow Rate, veh/h	-
Peak Hour Facto	or	1.00		Total Trucks, %			2.00
Segment Capacity, veh/h		1700		Demand/Capacity (D/C)			0.58
Intermedia	te Results						
Segment Vertica	al Class	1		Free-Flov	v Speed,	mi/h	54.4
Speed Slope Co	pefficient	3.51046		Speed Po	ower Coe	fficient	0.41674
PF Slope Coeffic	cient	-1.34026		PF Power	Coefficie	ent	0.74575
In Passing Lane	Effective Length?	No		Total Segment Density, veh/mi/ln			14.3
%Improved % F	ollowers	0.0		% Improved Avg Speed			0.0
Subsegmer	nt Data						
# Segment	Туре	Length, ft	Rad	lius, ft		Superelevation, %	Average Speed, mi/h
1 Tangent		5280	-	-		-	51.1
Vehicle Res	sults						
Average Speed,	mi/h	51.1		Percent F	ollowers	, %	73.6
Segment Travel Time, minutes		1.17		Follower Density, followers/mi/ln			14.3
Vehicle LOS		D					
Facility Res	ults						
т	Follower	Density, followers/r	ni/ln			LO	S
1 14.3				D			

ved. HCS TIMI Two-Lane Version 7.9 2_SR 29 – South of Lodi Lane (SB) – Saturday PM – F+P.xuf

HCS7 Two-Lane Highway Report

Project Information

		HCS7 Two	o-Lane	High	way R	eport	
Proj	ect Information						
Analy	st	KT		Date			6/2/2021
Agend	-у	W-Trans		Analysis	Year		2021
Jurisd	iction	County of Napa		Time Per	iod Analy	zed	Saturday PM Future plus Project
Projec	ct Description	Lodi Ln – West o Driveway (EB) – S PM		Unit			United States Customary
			Segn	nent 1			
Vehi	icle Inputs						
Segm	ent Type	Passing Constrai	ned	Length,	ft		5280
Lane \	Width, ft	14		Shoulde	r Width, f	t	0
Speed	Limit, mi/h	45		Access P	oint Den	sity, pts/mi	11.0
Den	nand and Capacity	·					·
Direct	ional Demand Flow Rate, veh,	/h 56	56		g Deman	d Flow Rate, veh/h	-
Peak I	Hour Factor	1.00		Total Tru	cks, %		2.00
Segment Capacity, veh/h		1700		Demand	/Capacity	/ (D/C)	0.03
Inte	rmediate Results						·
Segm	ent Vertical Class	1		Free-Flo	w Speed,	mi/h	45.5
Speed	I Slope Coefficient	3.02537		Speed Po	ower Coe	fficient	0.41674
PF Slo	pe Coefficient	-1.38653	-1.38653		r Coeffici	ent	0.71808
In Pas	sing Lane Effective Length?	No	No		gment De	nsity, veh/mi/ln	0.2
%lmp	roved % Followers	0.0	0.0 %		ved Avg	Speed	0.0
Sub	segment Data						
#	Segment Type	Length, ft	Rac	dius, ft		Superelevation, %	Average Speed, mi/h
1	Tangent	5280	-	-		-	45.5
Vehi	icle Results						
Avera	ge Speed, mi/h	45.5		Percent	Followers	, %	16.1
		1.32	1.32		Density,	followers/mi/ln	0.2
Vehicl	e LOS	A					
Facil	lity Results						
	T Foll	ower Density, follower	s/mi/ln			LC	os .
	1	0.2		A			

Agen	су	W-Trans		Analysis Year		2021	
Jurisd	liction	County of Napa		Time Period Analyzed		Saturday PM Future plus Project	
Projec	ct Description	Lodi Ln – West of Proj Driveway (WB) – Satur PM		Unit		United States Customary	
		S	egm	nent 1			
Vehi	icle Inputs						
Segm	ent Type	Passing Constrained		Length, ft		5280	
Lane \	Width, ft	14		Shoulder Width, fr	t	0	
Speed	d Limit, mi/h	45		Access Point Dens	ity, pts/mi	10.0	
Den	nand and Capacity						
Direct	tional Demand Flow Rate, veh/h	60		Opposing Deman	d Flow Rate, veh/h	-	
Peak I	Hour Factor	1.00		Total Trucks, %	2.00		
Segm	ent Capacity, veh/h	1700		Demand/Capacity	0.04		
Inte	rmediate Results						
Segm	ent Vertical Class	1		Free-Flow Speed,	mi/h	45.7	
Speed	d Slope Coefficient	3.03892		Speed Power Coe	fficient	0.41674	
PF SIc	ope Coefficient	-1.38571		PF Power Coefficie	0.71894		
In Pas	ssing Lane Effective Length?	No		Total Segment De	0.2		
%lmp	roved % Followers	0.0		% Improved Avg S	Speed	0.0	
Sub	segment Data						
#	Segment Type	Length, ft	Rad	ius, ft	Superelevation, %	Average Speed, mi/h	
1	Tangent	5280	-		-	45.7	
Vehi	icle Results						
Avera	ge Speed, mi/h	45.7		Percent Followers,	%	16.8	
Segment Travel Time, minutes		1.31		Follower Density, followers/mi/ln		0.2	
Vehic	le LOS	А					
Faci	lity Results						
	T Follower	Density, followers/mi/	'In		LC	s	
1 0.2				A			

HCS7 Two-Lane Highway Report

Date

6/2/2021

KT

Project Information

Analyst

HCSTMI Two-Lane Version 7.9 3_Lodi Ln – West of Project Driveway (EB) – Saturday PM – F+P.xuf

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

Pro	ject Information						
		KT		Date			6/2/2021
Ana	•				V/		6/2/2021
Age	•	W-Trans		Analysis			2021
Juris	sdiction	County of Napa		Time Per	riod Analyz	zed	Saturday PM Future plu Project
Proj	ect Description	Lodi Ln – East of Driveway (EB) – E		Unit			United States Customa
			Segr	nent 1			
Vel	hicle Inputs						
Segi	ment Type	Passing Constrai	ned	Length,	ft		5280
Lane	e Width, ft	14		Shoulde	r Width, ft		0
Spe	ed Limit, mi/h	45	45			ity, pts/mi	0.0
De	mand and Capacity						
Dire	ectional Demand Flow Rate, veh/h	56	56		g Demand	-	
Peak	ak Hour Factor 1.00 Total		Total Tru	cks, %		3.00	
Segment Capacity, veh/h		1700		Demand	/Capacity	(D/C)	0.03
Int	ermediate Results						
Segr	ment Vertical Class	1		Free-Flo	w Speed, r	mi/h	48.2
Spe	ed Slope Coefficient	3.17262		Speed Po	ower Coef	ficient	0.41674
PF S	ilope Coefficient	-1.37591	-1.37591		r Coefficie	nt	0.72726
In Pa	assing Lane Effective Length?	No	No		gment Der	0.2	
%lm	nproved % Followers	0.0	0.0		ved Avg S	0.0	
Sul	bsegment Data						
#	Segment Type	Length, ft	Rad	dius, ft		Superelevation, %	Average Speed, mi/h
1	Tangent	5280	-	-		48.2	
Vel	hicle Results	,					
Ave	rage Speed, mi/h	48.2		Percent	Followers,	%	15.6
Segr	ment Travel Time, minutes	1.24	1.24		Density, f	0.2	
Vehi	icle LOS	А					
Fac	cility Results						
	T Follow	er Density, follower	s/mi/ln			LC	os
	1 0.2			A			

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

egment Travel Time, minutes	1.24	Follower	Density, followers/mi/ln	0.3
ehicle LOS	A			
acility Results				
T Follow	ver Density, followers/mi/ln		LOS	;
1	0.3		А	
pyright © 2021 University of Florida. All Rig	hts Reserved. HCSTMI Two-I 4 Lodi Ln – East of Project Drive			Generated: 05/31/2021 18:56:1
	4_Loui Lii – East of Project Drive	way (VVD) - 3	Saturday PIVI - F+P.XUI	

Radius, ft

HCS7 Two-Lane Highway Report

Date

Unit

Length, ft

Shoulder Width, ft

Total Trucks, %

Demand/Capacity (D/C)

Free-Flow Speed, mi/h

PF Power Coefficient

% Improved Avg Speed

Percent Followers, %

Speed Power Coefficient

Total Segment Density, veh/mi/ln

Superelevation, %

Access Point Density, pts/mi

Opposing Demand Flow Rate, veh/h

Segment 1

Analysis Year

Time Period Analyzed

6/2/2021

Saturday PM Future plus

United States Customary

2021

Project

5280

0.0

3.00

0.04

48.2

0.3

0.0

48.2

18.0

Average Speed, mi/h

0.41674 0.72726

КТ

14

45

70

1.00

1700

3.17262

-1.37591

Length, ft

5280

48.2

No

0.0

W-Trans

County of Napa

Lodi Ln – East of Project

Driveway (WB) - Saturday

Passing Constrained

Project Information

Analyst

Agency

Jurisdiction

Project Description

Vehicle Inputs

Segment Type

Lane Width, ft

Speed Limit, mi/h

Peak Hour Factor

Segment Capacity, veh/h

Segment Vertical Class

PF Slope Coefficient

Speed Slope Coefficient

%Improved % Followers

Subsegment Data Segment Type

Tangent

Vehicle Results Average Speed, mi/h

Intermediate Results

In Passing Lane Effective Length?

Pr	oject Information						
	alyst	KT		Date			6/2/2021
	ency	W-Trans		Analysis	Year		2021
Juri	sdiction	County of Napa	a	Time Per	riod Analy	zed	Saturday PM Future plu Project
Pro	ject Description	Silverado Trail - Lodi Lane (NB) PM		Unit			United States Customa
			Segr	nent 1			
Ve	hicle Inputs						
Seg	ment Type	Passing Constra	ained	Length,	ft		5280
Lan	e Width, ft	12		Shoulde	r Width, f		6
Spe	ed Limit, mi/h	45		Access P	oint Dens	ity, pts/mi	5.0
De	emand and Capacity						
Directional Demand Flow Rate, veh/h		eh/h 423	423		g Deman	-	
Pea	k Hour Factor	1.00		Total Tru	cks, %		3.00
Seg	ment Capacity, veh/h	1700		Demand	/Capacity	(D/C)	0.25
Int	termediate Results						
Seg	ment Vertical Class	1		Free-Flo	w Speed,	mi/h	50.0
Spe	ed Slope Coefficient	3.26747	3.26747		ower Coe	fficient	0.41674
PF S	Slope Coefficient	-1.36740	-1.36740		r Coefficie	ent	0.73276
In F	assing Lane Effective Length	? No	No		gment De	4.6	
%In	nproved % Followers	0.0	0.0		ved Avg S	0.0	
Su	bsegment Data						
#	Segment Type	Length, ft	Rai	dius, ft		Superelevation, %	Average Speed, mi/h
1	Tangent	5280	-	-		-	47.9
Ve	hicle Results						
Ave	erage Speed, mi/h	47.9		Percent	Followers	%	51.7
Segment Travel Time, minutes		1.25		Follower	Follower Density, followers/mi/ln		4.6
Veh	icle LOS	В					
Fa	cility Results						
	T F	ollower Density, followe	ers/mi/ln			LC	os
	1	4.6		В			

Proje	ect Description		lverado Trail – North c odi Lane (SB) – Saturda M				United States Customary	
			Se	gment	1			
Veh	icle Inputs							
Segn	nent Type	Pa	assing Constrained	Lengt	h, ft		5280	
Lane	Width, ft	12	2	Shou	lder Width, f	t	6	
Spee	d Limit, mi/h	45	5	Acces	s Point Dens	ity, pts/mi	1.0	
Der	nand and Cap	acity						
Direc	tional Demand Flov	w Rate, veh/h 38	32	Оррс	sing Deman	d Flow Rate, veh/h	-	
Peak	Hour Factor	1.	00	Total	Trucks, %		3.00	
Segn	nent Capacity, veh/l	n 17	1700		nd/Capacity	(D/C)	0.22	
Inte	ermediate Res	ults						
Segment Vertical Class		1	1		Flow Speed,	51.0		
Speed Slope Coefficient		3.	32167	Speed	d Power Coe	fficient	0.41674	
PF Slope Coefficient		-1	1.36197	PF Po	wer Coefficie	ent	0.73580	
In Pa	ssing Lane Effective	Length? N	No		Segment De	3.8		
%lmp	proved % Followers	0.	0.0		proved Avg S	Speed	0.0	
Sub	segment Data	a						
#	Segment Type	Le	Length, ft Rad			Superelevation, %	Average Speed, mi/h	
1	Tangent	52	280	-	-		49.0	
Veh	icle Results							
Avera	age Speed, mi/h	49	9.0	Perce	nt Followers	, %	48.9	
Segment Travel Time, minutes		inutes 1.	22	Follov	Follower Density, followers/mi/ln		3.8	
Vehicle LOS		В	В					
Faci	ility Results							
	т	Follower Der	nsity, followers/mi/ln	1		LC	os	
	1		3.8		В			

HCS7 Two-Lane Highway Report

Date

Analysis Year

Time Period Analyzed

6/2/2021

Saturday PM Future plus Project

2021

KT

W-Trans

County of Napa

Project Information

Analyst

Agency

Jurisdiction

Pro	ject Information							
Anal		KT		Date			6/2/2021	
		W-Trans			Veer		2021	
Age: Juris	diction	County of Napa		Analysis Time Per	riod Analy:	zed	Saturday PM Future plu Project	
Proje	ect Description	Silverado Trail – Lodi Lane (NB) – PM		Unit			United States Customa	
			Segn	nent 1				
Vel	hicle Inputs							
Segr	ment Type	Passing Constrai	ned	Length,	ft		5280	
Lane	e Width, ft	12		Shoulde	r Width, ft		6	
Spee	ed Limit, mi/h	45	45			Access Point Density, pts/mi		
Dei	mand and Capacity							
Dire	ctional Demand Flow Rate, veh/h	443		Opposing Demand Flow Rate, veh/h			-	
Peak	K Hour Factor	1.00		Total Tru	cks, %		3.00	
Segment Capacity, veh/h		1700		Demand	/Capacity	(D/C)	0.26	
Int	ermediate Results							
Segr	ment Vertical Class	1		Free-Flo	w Speed, i	mi/h	50.0	
Spee	ed Slope Coefficient	3.26747		Speed Po	ower Coef	ficient	0.41674	
PF S	lope Coefficient	-1.36740		PF Power Coefficient			0.73276	
In Pa	assing Lane Effective Length?	No	No		gment Der	4.9		
%lm	proved % Followers	0.0	0.0		ved Avg S	0.0		
Sul	bsegment Data	•						
#	Segment Type	Length, ft	Rac	dius, ft Superelevation,		Superelevation, %	Average Speed, mi/h	
1	Tangent	5280	-	-		47.9		
Vel	hicle Results							
Aver	rage Speed, mi/h	47.9		Percent	Followers,	%	52.9	
Segr	ment Travel Time, minutes	1.25		Follower	Density, f	ollowers/mi/ln	4.9	
Vehi	icle LOS	В						
Fac	cility Results						•	
	T Follow	er Density, follower	s/mi/ln			LC	os	
	1 4.9			В				

| Vehicle LOS | B | Vehicle LOS | B | Vehicle LOS | B | Vehicle LOS | B | Vehicle LOS | B | Vehicle LOS | B | Vehicle LOS | B | Vehicle LOS | B | Vehicle LOS | B | Vehicle LOS | B | Vehicle LOS | B | Vehicle LOS | B | Vehicle LOS | B | Vehicle LOS | B | Vehicle LOS | B | Vehicle LOS | B | Vehicle LOS | B | Vehicle LOS | B | Vehicle LOS | B | Vehicle LOS | B | Vehicle LOS | B | Vehicle LOS | Vehicle LOS | Vehicle LOS | Vehicle LOS | Vehicle LOS | Vehicle LOS | Vehicle LOS | Vehicle LOS | Vehicle LOS | Vehicle LOS | Vehicle LOS | Vehicle LOS | Vehicle LOS | Vehicle LOS | Vehicle LOS | Vehicle LOS | Vehicle LOS | Vehicle LOS | Vehicle LOS | Vehicle LOS | Vehicle LOS | Vehicle LOS | Vehicle LOS | Vehicle LOS | Vehicle LOS | Vehicle LOS | Vehicle LOS | Vehicle LOS | Vehicle LOS | Vehicle LOS | Vehicle LOS | Vehicle LOS | Vehicle LOS | Vehicle LOS | Vehicle LOS | Vehicle LOS | Vehicle LOS | Vehicle LOS | Vehicle LOS | Vehicle LOS | Vehicle LOS | Vehicle LOS | Vehicle LOS | Vehicle LOS | Vehicle LOS | Vehicle LOS | Vehicle LOS | Vehicle LOS | Vehicle LOS | Vehicle LOS | Vehicle LOS | Vehicle LOS | Vehicle LOS | Vehicle LOS | Vehicle LOS | Vehicle LOS | Vehicle LOS | Vehicle LOS | Vehicle LOS | Vehicle LOS | Vehicle LOS | Vehicle LOS | Vehicle LOS | Vehicle LOS | Vehicle LOS | Vehicle LOS | Vehicle LOS | Vehicle LOS | Vehicle LOS | Vehicle LOS | Vehicle LOS | Vehicle LOS | Vehicle LOS | Vehicle LOS | Vehicle LOS | Vehicle LOS | Vehicle LOS | Vehicle LOS | Vehicle LOS | Vehicle LOS | Vehicle LOS | Vehicle LOS | Vehicle LOS | Vehicle LOS | Vehicle LOS | Vehicle LOS | Vehicle LOS | Vehicle LOS | Vehicle LOS | Vehicle LOS | Vehicle LOS | Vehicle LOS | Vehicle LOS | Vehicle LOS | Vehicle LOS | Vehicle LOS | Vehicle LOS | Vehicle LOS | Vehicle LOS | Vehicle LOS | Vehicle LOS | Vehicle LOS | Vehicle LOS | Vehicle LOS | Vehicle LOS | Vehicle LOS | Vehicle LOS | Vehicle LOS | Vehicle LOS | Vehicle LOS | Vehicle LOS | Vehicle LOS | Vehicle LOS | Vehicle LOS | Vehicle LOS | Vehicle LOS | Vehicle LOS | Vehicle LOS | Vehicle LOS |

Project Information

Analyst

Agency

Jurisdiction

Project Description

Vehicle Inputs

Segment Type

Lane Width, ft

Speed Limit, mi/h

Peak Hour Factor

Segment Capacity, veh/h

Segment Vertical Class

PF Slope Coefficient

Speed Slope Coefficient

%Improved % Followers

Segment Type

Tangent

Vehicle Results

Average Speed, mi/h

Segment Travel Time, minutes

Intermediate Results

In Passing Lane Effective Length?

Demand and Capacity

Directional Demand Flow Rate, veh/h

HCS7 Two-Lane Highway Report

Date

Unit

Length, ft

Shoulder Width, ft

Total Trucks, %

Demand/Capacity (D/C)

Free-Flow Speed, mi/h

PF Power Coefficient

% Improved Avg Speed

Percent Followers, %

Follower Density, followers/mi/ln

Radius, ft

Speed Power Coefficient

Total Segment Density, veh/mi/ln

Superelevation, %

Access Point Density, pts/mi

Opposing Demand Flow Rate, veh/h

Segment 1

Analysis Year

Time Period Analyzed

6/2/2021

Saturday PM Future plus

United States Customary

2021

Project

5280

1.0

3.00

0.23

51.0

0.41674

0.73580

Average Speed, mi/h

3.9

0.0

49.0

49.1

3.9

КТ

12

45

385

1.00

1700

3.32167

-1.36197

Length, ft

5280

49.0

1.22

No

0.0

W-Trans

County of Napa

Silverado Trail – South of

Lodi Lane (SB) - Saturday

Passing Constrained

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	x 3.05 one-way trips per employe 5 x 1.90 one-way trips per employe 82 /2.6 visitors per vehicle x 2 one-w /1,000 x 0.009 daily truck trips2 x 2 one	ee vay trips	= 137.3 daily trips = 9.5 daily trips = 63.1 daily trips = 2.9 daily trips = 213 daily trips				
Sect	ion B. Maximum Daily Weekday T	raffic (Friday, harvest season)						
6. 7. 8. 9. 10.		x 3.05 one-way trips per employed x 1.90 one-way trips per employed 2 /2.6 visitors per vehicle x 2 one-way trips 2 x 2 one 880 / 144 truck trips x 2 one-way trips 2	ee vay trips -way trips	= 137.3 daily trips = 20.9 daily trips = 63.1 daily trips = 2.9 daily trips = 12.2 daily trips = 236 daily trips				
	ion C. Maximum Daily Weekend T	raffic (Saturday, non-harvest seaso		a, aps				
12. 13. 14. 15.	Total number of FT Sat. employees: Total number of PT Sat. employees: Maximum Saturday visitors: Gallons of Production: 160000		mployee vay trips	= 137.3 daily trips = 9.5 daily trips = 58.6 daily trips = 2.9 daily trips = 208 daily trips				
Sect	ion D. Maximum Daily Weekend T	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: 160000 Avg. annual tons of grape on-haul:	x 3.05 one-way trips per er 11 x 1.90 one-way trips per er 82 /2.8 visitors per vehicle x 2 one-w 71,000 x 0.009 daily truck trips 2 x 2 one-w 880 / 144 truck trips x 2 one-w	nployee vay trips -way trips	= 137.3 daily trips = 20.9 daily trips = 58.6 daily trips = 2.9 daily trips = 12.2 daily trips = 232 daily trips				
Sect	ion E. PM Peak Hour Trip Generati	on (Friday, non-harvest season)						
	(Sum of daily trips from Sec. A, lines	3 and 4) x 0.38 + (No. of FTE) + (line 2 ,	/ 2)	= 73 PM peak trips				
Sect	ion F. PM Peak Hour Trip Generati	on (Friday, harvest season) . 10) x 0.38 + (No. of FTE) + (line 7 / 2)		= 80 PM peak trips				
Sect		ion (Saturday, non-harvest season)						
<u> </u>	-	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	2)	= 93 PM peak trips				
Sect	Section I. Maximum Annual Trips							
	(Sec. A, line 5 x 206) + (Sec. B, line 11 x 5	55) + (Sec. C, line 16 x 82) + (Sec. D, line 22 x	(22)	= 79018 Annual trips				

<u>Proposed Project Winery Traffic Information / Trip Generation</u>

<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	ect Name: Duckhorn Vineyards	Project Scenario:	Proposed					
Section J. Maximum Daily Weekday Traffic (Friday, non-harvest season)								
1. 2. 3. 4. 5.	Total number of PT employees: Maximum weekday visitors: 21	5 x 3.05 one-way trips per emplo 5 x 1.90 one-way trips per emplo 19 /2.6 visitors per vehicle x 2 one 000 x 0.009 daily truck trips2 x 2 or	yee -way trips	= 137.3 daily trips = 9.5 daily trips = 168.5 daily trips = 5.4 daily trips = 321 daily trips				
	tion K. Maximum Daily Weekday Traf	ffic (Friday, harvest season)	TOTAL	- 321 daily trips				
6. 7. 8. 9. 10.	Total number of FT employees: 4 Total number of PT employees: 1 Maximum weekday visitors: 23 Gallons of production: 300000 /1,	5 x 3.05 one-way trips per emplo 1 x 1.90 one-way trips per emplo 19 /2.6 visitors per vehicle x 2 one 19 000 x 0.009 daily truck trips 2 x 2 or 10 / 144 truck trips x 2 one-way tr	yee -way trips ne-way trips	= 137.3 daily trips = 20.9 daily trips = 168.5 daily trips = 5.4 daily trips = 23.6 daily trips = 356 daily trips				
Sec	tion L. Maximum Daily Weekend Traf	fic (Saturday, non-harvest seas	on)					
12. 13. 14. 15.		45 x 3.05 one-way trips per 5 x 1.90 one-way trips per 19 /2.8 visitors per vehicle x 2 one 000 x 0.009 daily truck trips x 2 one	employee -way trips	= 137.3 daily trips = 9.5 daily trips = 156.4 daily trips = 5.4 daily trips = 309 daily trips				
Sec	tion M. Maximum Daily Weekend Tra	affic (Saturday, harvest season)	_					
17. 18. 19. 20. 21.		x 3.05 one-way trips per 11 x 1.90 one-way trips per 19 /2.8 visitors per vehicle x 2 one 000 x 0.009 daily truck trips 2 x 2 or 1700 / 144 truck trips x 2 one-	employee -way trips ne-way trips	= 137.3 daily trips = 20.9 daily trips = 156.4 daily trips = 5.4 daily trips = 23.6 daily trips = 344 daily trips				
	tion N. PM Peak Hour Trip Generation	n (Friday, non-harvest season)						
	(Sum of daily trips from Sec. J, lines 3 a	and 4) x 0.38 + (No. of FTE) + (line 2	2 / 2)	= 114 PM peak trips				
Sec	tion O. PM Peak Hour Trip Generation	n (Friday, harvest season)						
	(Sum of daily trips, Sec. K, lines 8, 9, 10	0) x 0.38 + (No. of FTE) + (line 7 / 2)		= 126 PM peak trips				
Sec	tion P. PM Peak Hour Trip Generation	n (Saturday, non-harvest seasor	<u>n)</u>					
	(Daily trips from Sec. L, line 14 and 15)) x 0.57 + (No. of FTE) + (line 13 / 2)		= 140 PM peak trips				
Sec	tion Q. PM Peak Hour Trip Generation	n (Saturday, harvest season)						
	(Sum of daily trips Sec. M, lines 19, 20	, 21) x 0.57 + (No. of FTE) + (line 18	/ 2)	= 156 PM peak trips				
Section 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 22	2 x 22)	= 118612 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 Frida	y 10	0/18/2020	2:00-3:00	29	29	423	14%	
8 Frida	y 10	0/25/2019	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 Peak 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 Dis	53%	47%					

Weekly - Average Daily Traffic							
			Peak Hour 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%	
AVERAGE			15	27	300	14%	
				_ 170			

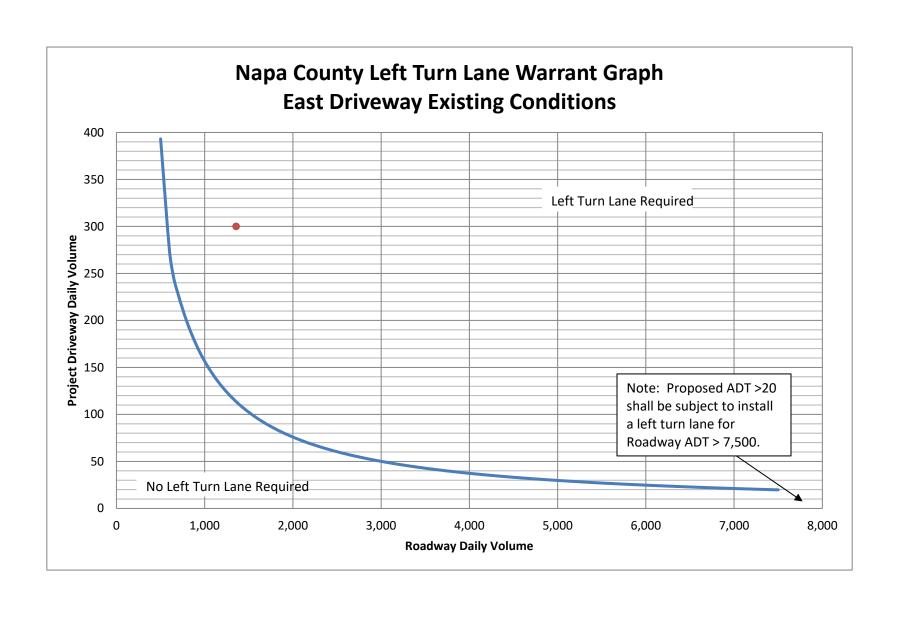


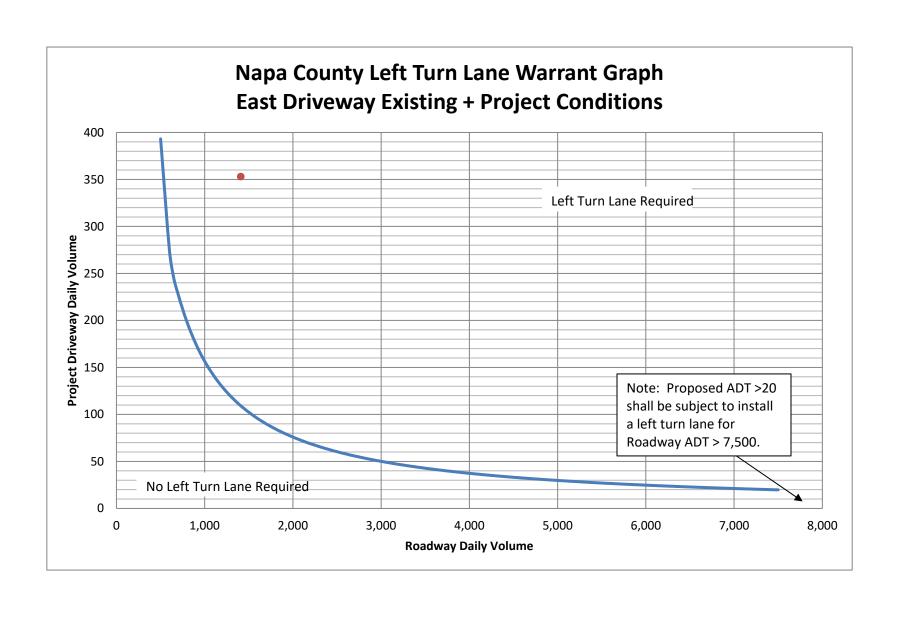
Appendix F

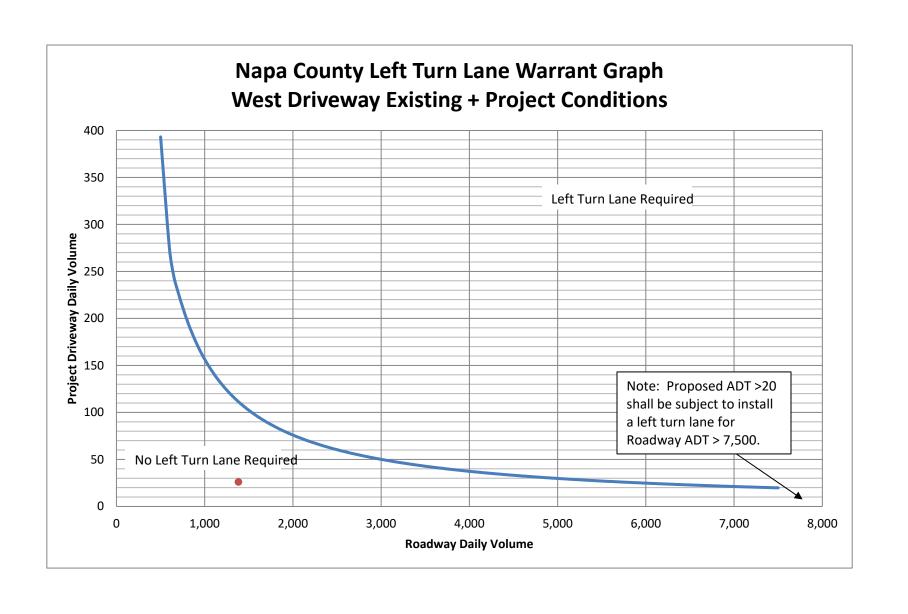
Left-Turn Lane Warrant Graphs













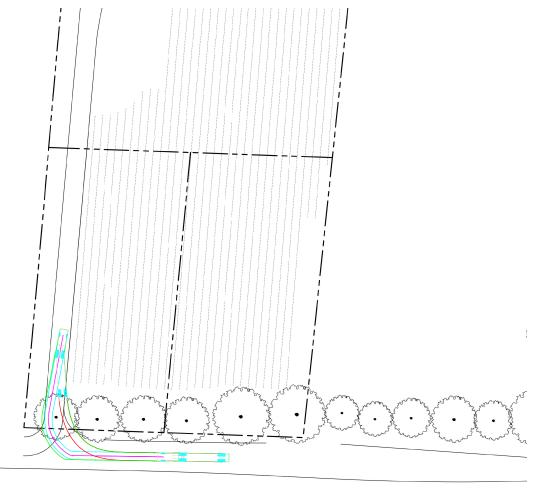
Appendix G

AutoTURN Exhibits

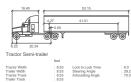










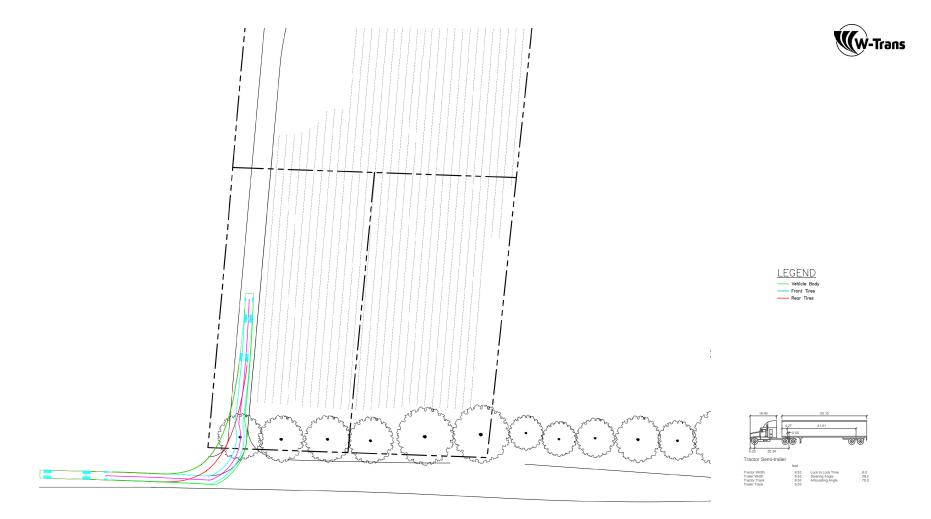


Inbound from East

TIS for the Duckhorn Vineyards Use Permit Modification

53-Foot Semi-Trailer Access via Western Driveway

June 2021

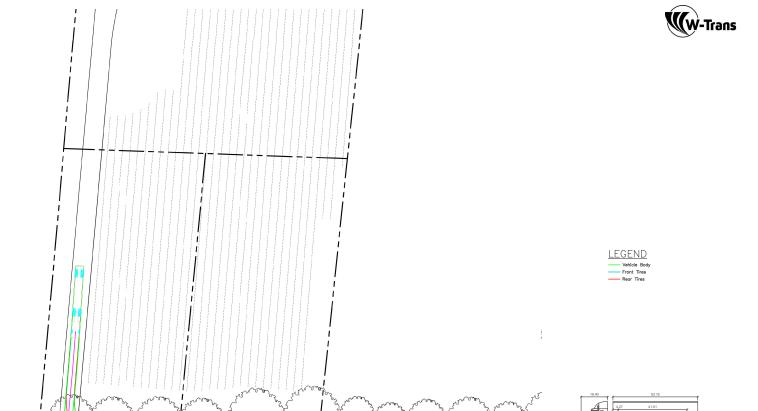


Inbound from West

TIS for the Duckhorn Vineyards Use Permit Modification

53-Foot Semi-Trailer Access via Western Driveway

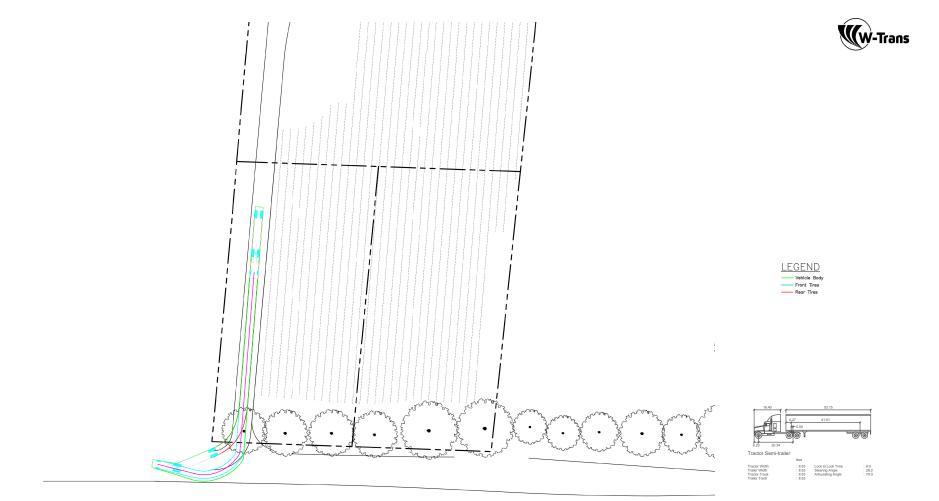
June 2021



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