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Traffic Impact Study

Paraduxx Winery P18-00347-MOD Planning Commission Hearing January 22, 2020



FINAL TRAFFIC IMPACT REPORT

PARADUXX WINERY USE PERMIT MODIFICATION 2018 (P18-00347)

August 27, 2019

Prepared for: PARADUXX WINERY

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I. INTRODUCTION

This report has been prepared at the request of Paraduxx Winery to determine whether proposed changes to existing winery operation as detailed in their use permit modification 2018 will result in any significant circulation impacts to the local roadway network. The project site is located along the west side of Silverado Trail between Oakville Cross Road and Yountville Cross Road (see **Figure 1 Regional Map** and **Figure 2 Site Specific Air Photo**). The scope of analysis includes evaluation of Silverado Trail as well as the Silverado Trail intersections with the winery driveway, Yountville Cross Road and Oakville Cross Road for harvest year 2016, Year 2020 and cumulative year 2030 horizons.

II. SCOPE OF SERVICES

The scope of service for this traffic study was developed to provide analysis requested by both the Napa County Public Works and the Planning, Building & Environmental Services departments. It should be noted that this study was first submitted to the County in 2016 and has then been revised several times reflecting comments by County staff, updated County review criteria and changes in the project description. The existing conditions analysis has remained 2016 harvest conditions as the 2020 and Cumulative 2030 evaluation horizons are the important analysis years since use permit modification activities would only be in operation by 2020 at the earliest. The analysis has conformed to the following criteria.

- Project trip generation has been based upon direction from the County Public Works Department.
- All significance criteria used for operations evaluation have been approved by the Napa County Public Works Department and meet CEQA requirements.

Evaluation was conducted for <u>harvest</u> (crush) Friday PM commute peak hour and Saturday afternoon peak hour traffic conditions. Historical traffic count information for major Napa County roadways indicates that there are higher volumes during this time period than during all other times of the year. Existing (year 2016), year 2020 and year 2030 (Cumulative – General Plan Buildout) With and Without Project operating conditions were evaluated for Silverado Trail arterial operation both north and south of the winery as well as at the Silverado Trail intersections with the project driveway, Yountville Cross Road and Oakville Cross Road. In addition, new marketing event sizes and proposed limitations to start and end times were detailed. Finally, sight line adequacy was evaluated at the project driveway intersection with Silverado Trail. Significant impacts, if any, were identified and measures listed, if needed, to mitigate all impacts to a less than significant level. Five years of accident data for Silverado Trail between and including the Oakville Cross Road and Yountville Cross Road intersections have also been requested by County Public Works and have been provided in a separate memo report.

III. SUMMARY OF FINDINGS

A. "WITHOUT PROJECT" OPERATING CONDITIONS

1. EXISTING VOLUMES – HARVEST 2016

Silverado Trail adjacent to the proposed project site had higher September harvest two-way traffic volumes during the Friday PM peak traffic hour compared Saturday PM peak traffic hour (about 1,825 two-way peak hour vehicles from 3:15 to 4:15 PM on Friday versus about 1,660 two-way peak hour vehicles from 3:30 to 4:30 PM on Saturday). The driveway serving the project site had about 40 vehicles during the Friday PM peak hour and about 25 vehicles during the Saturday PM peak hour.

2. PLANNED & ONGOING ROADWAY IMPROVEMENTS

There are no planned circulation system improvements along Silverado Trail at analysis locations. Repaving of Silverado Trail in the project vicinity was just completed in July 2019 as was an improvement at the Silverado Trail/Yountville Cross Road intersection where a median acceleration lane was provided on Silverado Trail just north of the intersection to facilitate left turns from Yountville Cross Road.

3. YEAR 2016, 2020 AND CUMULATIVE (2030) HARVEST "WITHOUT PROJECT" CIRCULATION SYSTEM OPERATION

- Silverado Trail North & South of Winery Arterial operation would be LOS E in both directions north and south of the winery for all three horizon years.
- Silverado Trail/Oakville Cross Road intersection There would be unacceptable level of service E or F operation on the stop sign controlled Oakville Cross Road approach during both the Friday and Saturday PM peak hours.
- Silverado Trail/Yountville Cross Road intersection There would be unacceptable level of service E or F operation on the stop sign controlled Yountville Cross Road approach during the Friday PM peak hour, but acceptable level of service C or D operation during the Saturday PM peak hour.
- Silverado Trail/Paraduxx Winery Driveway intersection Operation would be an acceptable level of service C or D during the Friday and Saturday PM peak hours.
- Signal Warrants Both the Oakville and Yountville Cross Roads intersections have volumes meeting both urban and rural peak hour signal Warrant #3 criteria levels during the Friday and Saturday PM peak hours.

B. PROJECT IMPACTS

1. PROJECT TRIP GENERATION

The proposed use permit modification 2018 would be expected to generate 4 inbound and 8 outbound trips during the Friday PM peak hour along Silverado Trail, with 6 inbound and 9 outbound vehicles during the Saturday PM peak traffic hour along Silverado Trail.

FRIDA PEAK HO (3:15-	UR TRIPS	SATURDAY AFTERNOON PEAK HOUR TRIPS (3:30-4:30)		
IN OUT		IN	OUT	
4	8	6	9	

NET NEW TRIPS BASED UPON EXISTING HOURLY TRAFFIC FLOW PATTERNS TO/FROM WINERY

Project trip generation expected during harvest Friday and Saturday peak traffic hours on the local circulation system was based upon methodology recently approved by the Napa County Public Works Department. Daily trip generation projections were first developed using the County's Use Permit Winery Traffic Information/Trip Generation Sheet trip rate factors. As requested by Napa County Public Works, two Fridays and two Saturdays of 24-hour counts on the winery driveway then determined the percent two-way traffic for each hour of the day. The Friday and Saturday hours with the highest percent of daily traffic were then determined and this maximum hourly percent was applied to the daily volumes. Resulting peak hour project volumes were then assumed to take place on the local roadway network peak hours even if the roadway peaks were different than the winery driveway peaks. For Paraduxx Winery, the driveway peak hours were 3:15-4:15 PM on Friday and 3:30-4:30 PM on Saturday. Virtually all new PM peak hour trips will be associated with increased visitation.

2. OFF-SITE IMPACTS

a. ARTERIALS (SILVERADO TRAIL)

i) Year 2016 or Year 2020 Harvest + Project Off-Site Circulation Impacts

The proposed project would not result in any significant off-site circulation impacts to Silverado Trail. The roadway would already be operating at LOS E and the addition of project traffic would not increase total arterial volumes by 1 percent or greater¹ at any location along Silverado Trail. *Less than significant*.

¹ County of Napa significance criteria.

ii) Cumulative Year 2030 Harvest + Project Off-Site Circulation Impacts

The proposed project would not result in any significant off-site circulation impacts to Silverado Trail. The roadway would already be operating at LOS E and the addition of project traffic would not increase total arterial volumes by 1 percent or greater² at any location along Silverado Trail. *Less than significant*.

b. INTERSECTIONS

i) Year 2016 or Year 2020 Harvest + Project Off-Site Circulation Impacts

The proposed project would not result in any significant off-site circulation impacts to the Silverado Trail/Oakville Cross Road or Silverado Trail/Yountville Cross Road intersections.

- The Silverado Trail/Oakville Cross Road intersection would already be operating unacceptably during both the Friday and Saturday PM peak hours, but the addition of project traffic would not increase peak hour volumes 10 percent or greater² on the stop sign controlled intersection approach. *Less than significant.*
- The Silverado Trail/Yountville Cross Road intersection would already be operating unacceptably during the Friday PM peak hour, but the addition of project traffic would not increase peak hour volumes 10 percent or greater² on the stop sign controlled intersection approach. In addition, acceptable Saturday PM peak hour operation would not be degraded by the addition of project traffic. *Less than significant.*
- The Silverado Trail/Paraduxx Winery intersection would continue to operate at level of service C or D with the addition of project traffic. *Less than significant.*

ii) Cumulative Year 2030 Harvest + Project Off-Site Circulation Impacts

The proposed project would not result in any significant off-site circulation impacts to the Silverado Trail/Oakville Cross Road or Silverado Trail/Yountville Cross Road intersections.

• The Silverado Trail/Oakville Cross Road intersection would already be operating unacceptably during both the Friday and Saturday PM peak hours, but the addition of project traffic would not increase the change in peak hour volumes from existing to cumulative conditions by 5 percent or greater² on the stop sign controlled intersection approach. *Less than significant.*

² County of Napa significance criteria.

- The Silverado Trail/Yountville Cross Road intersection would already be operating unacceptably during the Friday PM peak hour, but the addition of project traffic would not increase the change in peak hour volumes from existing to cumulative conditions by 5 percent or greater³ on the stop sign controlled intersection approach. In addition, acceptable Saturday PM peak hour operation would not be degraded by the addition of project traffic. *Less than significant.*
- The Silverado Trail/Paraduxx Winery intersection would continue to operate at level of service C or D with the addition of project traffic. *Less than significant.*

c. SIGNAL WARRANTS

i) Year 2016 or Year 2020 Harvest + Project Off-Site Circulation Impacts

The Silverado Trail intersections with Oakville Cross Road and Yountville Cross Road would continue to have volumes exceeding Warrant #3 urban and rural criteria with the addition of project traffic These results are for informational purposes only as there are no County significance criteria for this evaluation.

ii) Cumulative Year 2030 Harvest + Project Off-Site Circulation Impacts

The Silverado Trail intersections with Oakville Cross Road and Yountville Cross Road would continue to have volumes exceeding Warrant #3 urban and rural criteria with the addition of project traffic These results are for informational purposes only as there are no County significance criteria for this evaluation.

3. Sight Lines at Project Driveway

Sight lines at the project's driveway connection to Silverado Trail meet minimum stopping sight distance criteria based upon the Caltrans July 2018 Highway Design Manual. *Less than significant.*

4. Marketing Events

The project is modifying its current permitted marketing schedule of 277 events resulting in the schedule of 198 events shown below. There will be a reduction of about 355 guests per year with the new marketing event schedule (or about 4 percent of the currently permitted number of guests). All but 35 of the 198 events would be permitted under the existing use permit. Valet parking will be provided for all large events. For the 35 new events (60-guest events 33 times per year and 400-guest events two times per year) the applicant agrees that there will be no events beginning or ending between 2:30 and 5:30 PM on Fridays or Saturdays. *Less than significant*.

³ County of Napa significance criteria.

SIZE & DAYS OF EVENTS	# OF EVENTS	# OF GUESTS/EVENT	# OF GUEST VEHICLES				
Medium Events (WedSat.)	33	60	22-23				
Large Events (WedSat.)	2	400	143-154				

NEW MARKETING EVENTS WITH USE PERMIT MODIFICATION 2018

C. MITIGATION MEASURES

No measures are required.

D. CONCLUSIONS & RECOMMENDATIONS

The project will result in no significant off-site circulation system operational impacts to Silverado Trail or to the Silverado Trail intersections with Oakville Cross Road, Yountville Cross Road or the winery access driveway based upon County of Napa significance criteria. It is important to note that study results are based upon a very conservative analysis wherein it assumes (based upon County methodology) that the Friday and Saturday PM peak traffic hours at the Paraduxx Winery occur at exactly the same time as the peak traffic hours along the adjacent Silverado Trail. Even though this is not the case, study results still show no off-site significant impacts and would still be valid even if the winery's peak afternoon traffic hours shift to be the same as those along Silverado Trail.

A left turn lane is already provided on the Silverado Trail northbound approach to the project driveway and a median refuge area is provided to the north of the winery driveway to assist left turn movements from the project site. In addition, sight lines at the project driveway connection to Silverado Trail are acceptable and meet Caltrans stopping sight distance criteria. The number of marketing events is being reduced from 277 down to 198 (with a reduction of about 355 yearly guests) with only 35 of the total remaining events not covered by the winery's existing use permit. For the 35 new events, none would start or end between 2:30 and 5:30 PM on a Friday or Saturday.

IV. PROJECT LOCATION & DESCRIPTION

The Paraduxx Winery is located on the west side of Silverado Trail about a mile south of the Oakville Cross Road intersection and a mile north of the Yountville Cross Road intersection (see **Figures 1 & 2**). A left turn lane is already in place on the northbound Silverado Trail approach to the project entrance and a median refuge area is in place just north of the driveway to assist in left turn movements from the project site. For analysis purposes, the proposed use permit modification 2018 will be comprised of the following components.

- No net increase in employees traveling to/from the winery. While there will be an increase in production employees at the winery, their number will be offset by an equal decrease in other employees (admin/sales) that will be moving and working off site.
- Increase production from 200,000 up to 300,000 gallons per year.
- Increase daily visitors by 94 during peak tourist visitation days (from 50 up to 144 daily visitors). Maintain visitation hours between 10:00 AM and 6:00 PM.
- Increase grape delivery up to 10 trucks/day on weekdays and up to 6/day on Saturdays over two months.
- Increase on-site bottling 5,000-8,000 gallons/year (for an additional 4-6 days of bottling).
- The word "Stop" will be painted on the pavement of the Paraduxx driveway approach to Silverado Trail.
- Marketing event changes:
 - Small events (existing entitlement): Reduction of 104 events (from 260 to 156 events with 24 guests/event).
 - Cultural events (existing entitlement): Eliminate all 10 events with 24 guests/event.
 - Auction (existing entitlement): 2 events/year; proposed reduction in attendance by 200 guests/event (from 500 to 300 guests).
 - Newly proposed entitlements:
 - Medium events: 33 new events/year with up to 60 guests/event.
 - Large events: 2 events/year with 400 guests/event.
 - Newly proposed entitlement events will not start or end between 2:30 and 5:30 PM on Friday or Saturday.

V. EXISTING CIRCULATION SYSTEM EVALUATION PROCEDURES

A. ANALYSIS LOCATIONS

1. INTERSECTIONS

The following locations have been evaluated.

- a. Silverado Trail/Oakville Cross Road intersection (The Oakville Cross Road approach is stop sign controlled.)
- b. Silverado Trail/Yountville Cross Road intersection (The Yountville Cross Road eastbound approach is stop sign controlled.)
- c. Silverado Trail/Project Driveway intersection

Figure 3 presents a schematic of approach lane geometrics and control at each analysis intersection.

2. ARTERIAL ROADWAY SEGMENTS

The following locations have been evaluated.

a. Silverado Trail Just North and South of the Paraduxx Driveway

B. VOLUMES

1. ANALYSIS SEASONS AND DAYS OF THE WEEK

Project traffic impacts have been evaluated during harvest conditions. Based upon more than four years of historical information from Caltrans PeMS (Performance Measurement System) count surveys along SR 29 in the Napa Valley, September has the highest daily volumes of the year (during harvest). Therefore, only September harvest conditions were selected for evaluation.

In regards to the peak traffic days of the week, the Napa County Travel Behavioral Study⁴ shows that the highest weekday volumes in Napa Valley occur on a Friday, with the highest weekend volumes occurring on a Saturday. In addition, historical count data from the City of Napa show that Friday has the highest volumes of any weekday, while Caltrans historical counts for SR 29 between St. Helena and Napa also show that weekday AM and PM peak hour volumes are higher on a Friday than on either a Wednesday or Thursday. Therefore, Friday and Saturday peak traffic conditions were evaluated in this study.

2. COUNT RESULTS

Friday 3:00 to 6:00 PM as well as Saturday 1:00 to 6:00 PM turn movement counts were conducted by Crane Transportation Group (CTG) in October 2016 at the Silverado Trail intersections with Yountville Cross Road, Oakville Cross Road and the Winery driveway. The peak traffic hours for the system were determined to be 3:15 to 4:15 PM on Friday and 3:30 to 4:30 PM on Saturday. Resultant October 2016 peak hour counts are presented in **Appendix Figure A-1**. It should be noted, however, that there were many hours on both days that had similar volumes.

3. SEASONAL ADJUSTMENTS

October 2016 peak hour traffic counts were seasonally adjusted to reflect 2016 September harvest conditions. Historical traffic count data from Caltrans PeMS system as well as past studies were used to determine that September weekday volumes are about 1.5 percent higher than October weekday volumes, while September weekend volumes are about 2 percent higher than October weekend volumes.

⁴ Fehr & Peers, December 8, 2014.

Resultant 2016 Friday and Saturday PM peak hour harvest volumes are presented in **Figure 4**. Overall harvest Friday PM peak hour two-way volumes along Silverado Trail at the winery entrance would be expected to be about 10 percent higher than Saturday PM peak hour volumes (1,825 vehicles on Friday versus 1,660 vehicles on Saturday).

C. ROADWAYS

Roadway descriptions are based upon the designation that Silverado Trail runs in a general north-south direction through the project area while Oakville Cross Road and Yountville Cross Road run in an east-west direction. The project site is along the west side of Silverado Trail.

Silverado Trail is an arterial roadway in the project vicinity that has two well-paved 12-foot travel lanes and wide paved shoulders that are utilized as Class II bicycle lanes. Left turn lanes are provided on the northbound Silverado Trail approaches to Oakville Cross Road, Yountville Cross Road and the Paraduxx Winery driveway. There is also a median acceleration area just north of the Yountville Cross Road intersection to assist left turns from the Yountville Cross Road to northbound Silverado Trail. The posted speed limit is 55 miles per hour.

Oakville Cross Road is a two-lane rural collector roadway extending westerly from Silverado Trail to the west of SR 29. It is stop sign controlled on its eastbound approach to Silverado Trail.

Yountville Cross Road is a two-lane collector roadway extending westerly from Silverado Trail to the community of Yountville and an indirect connection to SR 29. It is stop sign controlled on its eastbound approach to Silverado Trail.

D. INTERSECTION LEVEL OF SERVICE

1. ANALYSIS METHODOLOGY

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

Unsignalized Intersections. For unsignalized (all-way stop-controlled and side-street stopcontrolled) intersections, the 2017 *Highway Capacity Manual Version 6* (Transportation Research Board, National Research Council) methodology for unsignalized intersections was utilized. For side-street stop-controlled intersections, operations are defined by the level of service and average control delay per vehicle (measured in seconds), with delay reported for the stop sign controlled approaches or turn movements. For all-way stop-controlled intersections, operations are defined by the average control delay for the entire intersection (measured in seconds per vehicle). The delay at an unsignalized intersection incorporates delay associated with deceleration, acceleration, stopping, and moving up in the queue. **Table 1** summarizes the relationship between delay and LOS for unsignalized intersections.

2. MINIMUM ACCEPTABLE OPERATION

Napa County's currently minimum acceptable operating standard for unsignalized intersections is Level of Service D (LOS D) for side street stop sign controlled approaches at two-way stop intersections and for overall operation at all-way-stop intersections. It should be noted, however, that the Napa County Board of Supervisors recently approved a Napa County General Plan Update Circulation element establishing that LOS E is now acceptable for Silverado Trail in the project area. However, to provide a conservative analysis the LOS D criteria as minimum acceptable has been used.

E. ARTERIAL LEVEL OF SERVICE

1. ANALYSIS METHODOLOGY

The 2017 Highway Capacity Manual Version 6 arterial analysis methodology has been utilized for analysis of Silverado Trail. Analysis results are presented as a level of service, volume to capacity ratio and percent time following. Input includes directional volumes, road and shoulder widths, percent trucks and RVs, terrain characteristics, percent available passing distance, etc.

2. MINIMUM ACCEPTABLE OPERATION

Napa County's currently minimum acceptable operating standard for unsignalized arterials is Level of Service D (LOS D).

F. INTERSECTION SIGNAL WARRANTS

1. ANALYSIS METHODOLOGY

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

There are 10 possible tests for determining whether a traffic signal should be considered for installation. These tests, called "warrants", consider criteria such as actual traffic volume, pedestrian volume, presence of school children, and accident history. The intersection volume data together with the available collision histories were compared to warrants contained in the *California Manual on Uniform Traffic Control Devices, 2014, Revision 3 (2014 CMUTCD Rev. 3)*. Section 4C of the 2014 CMUTCD Rev. 3 provides guidelines, or warrants, which may

indicate need for a traffic signal at an unsignalized intersection. As indicated in the 2014 CMUTCD Rev. 3, satisfaction of one or more warrants does not necessarily require immediate installation of a traffic signal. It is merely an indication that the local jurisdiction should begin monitoring conditions at that location and that a signal may ultimately be required.

Warrant 3, the peak hour volume warrant, is often used as an initial check of signalization needs since peak hour volume data is typically available and this warrant is usually the first one to be met. Warrant 3 is based on a logarithmic curve and takes only the hour with the highest volume of the day into account. For intersections in rural locations (with local area population less than 10,000 people or where the posted speed limit or 85th percentile speed on the uncontrolled intersection approaches is greater than 40 miles per hour) a 70 percent warrant is applied. The regular and 70 percent warrants are typically referred to as the urban and rural peak hour warrants. Please see **Appendix A-2** for the existing condition warrant charts.

G. PLANNED IMPROVEMENTS

There are no planned and funded improvements at any location evaluated in this study.⁵ The Silverado Trail/Yountville Cross Road intersection has recently been improved to provide a median acceleration lane on Silverado Trail just north of the intersection to facilitate left turn movements from Yountville Creek Road. In addition, Silverado Trail has recently been repaved in the project area.

VI. FUTURE HORIZON TRAFFIC VOLUME PROJECTIONS

Traffic analysis has been conducted for harvest existing (2016), year 2020 and cumulative (year 2030) horizons at County request. The 2030 cumulative horizon reflects the County General Plan Buildout year. Traffic modeling for the General Plan shows the following growths in two-way traffic between 2016 and 2030 for the following roadways.

Route	2016 to 2030 Projected Growth in 2-Way PM Peak Hour Traffic
Silverado Trail	PM peak hour = 12.5%
Oakville Cross Road	PM peak hour = 40%
Yountville Cross Road	PM peak hour = 18%

Projecting straight line traffic growth for analysis purposes, this translates into the following growths in two-way traffic between 2015 and 2020 for the same roadways.

Route	2016 to 2020 Projected Growth in 2-Way PM Peak Hour Traffic
Silverado Trail	PM peak hour = 3.6%
Oakville Cross Road	PM peak hour = 12%
Yountville Cross Road	PM peak hour = 5.2%

⁵ Mr. Michael Hawkins, Napa County Public Works Department, March 2018.

Since traffic modeling projections were only available for weekday PM peak hour conditions and not for the Saturday PM peak hour, Saturday two-way PM peak hour volumes were increased by the percentages found for the weekday PM peak hour.

Resultant year 2020 harvest "Without Project" Friday and Saturday PM peak hour volumes are presented in **Figure 5**, while year 2030 harvest "Without Project" Friday and Saturday PM peak hour volumes are presented in **Figure 6**.

VII. OFF-SITE CIRCULATION SYSTEM OPERATION – WITHOUT PROJECT

1. YEAR 2016 HARVEST (WITHOUT PROJECT) OPERATING CONDITIONS

A. INTERSECTION LEVEL OF SERVICE – see Table 2 and Appendix A-3 for capacity worksheets

1) SILVERADO TRAIL/OAKVILLE CROSS ROAD a) Friday PM Peak Hour

Unacceptable Oakville Cross Road stop sign controlled eastbound approach: LOS F b) Saturday PM Peak Hour

Unacceptable Oakville Cross Road stop sign controlled eastbound approach: LOS E

2) SILVERADO TRAIL/YOUNTVILLE CROSS ROAD a) Friday PM Peak Hour

Unacceptable Yountville Cross Road stop sign controlled eastbound approach: LOS E b) Saturday PM Peak Hour

Acceptable Yountville Cross Road stop sign controlled eastbound approach: LOS C

3) SILVERADO TRAIL/PARADUXX WINERY DRIVEWAY a) Friday PM Peak Hour

Acceptable Paraduxx Driveway eastbound approach: LOS D

b) Saturday PM Peak Hour

Acceptable Paraduxx Driveway eastbound approach: LOS C

B. ARTERIAL SEGMENT LEVEL OF SERVICE – see Table 3 & Appendix A-4 for capacity worksheets

1) SILVERADO TRAIL JUST NORTH OF PARADUXX WINERY

- a) Friday PM Peak Hour Northbound – LOS E Southbound – LOS E
- b) Saturday PM Peak Hour Northbound – LOS E Southbound – LOS E
- 2) SILVERADO TRAIL JUST SOUTH OF PARADUXX WINERY
 - a) Friday PM Peak Hour Northbound – LOS E Southbound – LOS E
 - b) Saturday PM Peak Hour Northbound – LOS E Southbound – LOS E

C. SIGNAL WARRANT EVALUATION – Table 4 & Appendix Figure A-2

1) SILVERADO TRAIL/OAKVILLE CROSS ROAD a) Friday PM Peak Hour

Volumes exceed peak hour signal Warrant #3 urban and rural criteria.

b) Saturday PM Peak Hour

Volumes exceed peak hour signal Warrant #3 urban and rural criteria.

2) SILVERADO TRAIL/YOUNTVILLE CROSS ROAD a) Friday PM Peak Hour

Volumes exceed peak hour signal Warrant #3 urban and rural criteria.

b) Saturday PM Peak Hour

Volumes exceed peak hour signal Warrant #3 urban and rural criteria.

2. YEAR 2020 HARVEST (WITHOUT PROJECT) OPERATING CONDITIONS

A. INTERSECTION LEVEL OF SERVICE – see Table 2

1) SILVERADO TRAIL/OAKVILLE CROSS ROAD a) Friday PM Peak Hour

Unacceptable Oakville Cross Road stop sign controlled eastbound approach: LOS F b) Saturday PM Peak Hour

Unacceptable Oakville Cross Road stop sign controlled eastbound approach: LOS E

2) SILVERADO TRAIL/YOUNTVILLE CROSS ROAD b) Friday PM Peak Hour

Unacceptable Yountville Cross Road stop sign controlled eastbound approach: LOS E b) Saturday PM Peak Hour

Acceptable Yountville Cross Road stop sign controlled eastbound approach: LOS D

3) SILVERADO TRAIL/PARADUXX WINERY DRIVEWAY a) Friday PM Peak Hour

Acceptable Paraduxx Driveway eastbound approach: LOS D

b) Saturday PM Peak Hour

Acceptable Paraduxx Driveway eastbound approach: LOS C

B. ARTERIAL SEGMENT LEVEL OF SERVICE – see Table 3

1) SILVERADO TRAIL JUST NORTH OF PARADUXX WINERY

- a) Friday PM Peak Hour Northbound – LOS E Southbound – LOS E
- **b)** Saturday PM Peak Hour Northbound – LOS E Southbound – LOS E

2) SILVERADO TRAIL JUST SOUTH OF PARADUXX WINERY

- a) Friday PM Peak Hour Northbound – LOS E Southbound – LOS E
- b) Saturday PM Peak Hour Northbound – LOS E Southbound – LOS E

C. SIGNAL WARRANT EVALUATION – see Table 4

1) SILVERADO TRAIL/OAKVILLE CROSS ROAD a) Friday PM Peak Hour

Volumes would exceed peak hour signal Warrant #3 urban and rural criteria.

b) Saturday PM Peak Hour

Volumes would exceed peak hour signal Warrant #3 urban and rural criteria.

2) SILVERADO TRAIL/YOUNTVILLE CROSS ROAD a) Friday PM Peak Hour

Volumes would exceed peak hour signal Warrant #3 urban and rural criteria.

b) Saturday PM Peak Hour

Volumes would exceed peak hour signal Warrant #3 urban and rural criteria.

3. YEAR 2030 (CUMULATIVE) HARVEST (WITHOUT PROJECT) OPERATING CONDITIONS

A. INTERSECTION LEVEL OF SERVICE – see Table 2

1) SILVERADO TRAIL/OAKVILLE CROSS ROAD a) Friday PM Peak Hour

Unacceptable Oakville Cross Road stop sign controlled eastbound approach: LOS F b) Saturday PM Peak Hour

Unacceptable Oakville Cross Road stop sign controlled eastbound approach: LOS F

2) SILVERADO TRAIL/YOUNTVILLE CROSS ROAD

a) Friday PM Peak Hour

Unacceptable Yountville Cross Road stop sign controlled eastbound approach: LOS F b) Saturday PM Peak Hour

Acceptable Yountville Cross Road stop sign controlled eastbound approach: LOS D

3) SILVERADO TRAIL/PARADUXX WINERY DRIVEWAY a) Friday PM Peak Hour

Acceptable Paraduxx Driveway eastbound approach: LOS D

b) Saturday PM Peak Hour

Acceptable Paraduxx Driveway eastbound approach: LOS C

B. ARTERIAL SEGMENT LEVEL OF SERVICE – see Table 3

1) SILVERADO TRAIL JUST NORTH OF PARADUXX WINERY

- a) Friday PM Peak Hour Northbound – LOS E Southbound – LOS E
- b) Saturday PM Peak Hour Northbound – LOS E Southbound – LOS E

2) SILVERADO TRAIL JUST SOUTH OF PARADUXX WINERY

- a) Friday PM Peak Hour Northbound – LOS E Southbound – LOS E
- b) Saturday PM Peak Hour Northbound – LOS E Southbound – LOS E

C. SIGNAL WARRANT EVALUATION – see Table 4

1) SILVERADO TRAIL/OAKVILLE CROSS ROAD a) Friday PM Peak Hour

Volumes would exceed peak hour signal Warrant #3 urban and rural criteria. b) Saturday PM Peak Hour

Volumes would exceed peak hour signal Warrant #3 urban and rural criteria.

2) SILVERADO TRAIL/YOUNTVILLE CROSS ROAD a) Friday PM Peak Hour

Volumes would exceed peak hour signal Warrant #3 urban and rural criteria.

b) Saturday PM Peak Hour

Volumes would exceed peak hour signal Warrant #3 urban and rural criteria.

VIII. SIGNIFICANCE CRITERIA

A. COUNTY OF NAPA

The following criteria have recently been developed for traffic impact analyses in Napa County.

EXISTING + PROJECT CONDITIONS

A. ARTERIAL SEGMENTS

A project would cause a significant impact requiring mitigation if:

- 1. 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
- 2. 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.

For the second criteria, the following equation should be used if the arterial operates at LOS E or F without the project:

Project Contribution % = Project Trips ÷ **Existing Volumes**

B. SIGNALIZED INTERSECTIONS

A project would cause a significant impact requiring mitigation if:

- 1. A signalized intersection 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
- 2. 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.

For the second criteria, the following equation should be used if the signalized intersection operates at LOS E or F without the project:

Project Contribution % = **Project Trips** ÷ **Existing Volumes**

Maintaining LOS D or better at all signalized intersections would sometimes require expanding the physical footprint of an intersection. In some locations around the County, expanding physical transportation infrastructure could be in direct conflict with the County's goals of preserving the area's rural character, improving safety, and sustaining the agricultural industry, making these potential improvements infeasible. The County's Circulation Element lists intersections that are slated for improvement or expansion in unincorporated Napa County.⁶

Transportation studies should individually consider the feasibility of potential mitigation measures with respect to right-of-way acquisition, regardless of the intersection's place in the Circulation Element's identified improvement lists, and present potential alternative mitigation measures that do not require right-of-way acquisition. County staff would then review that information and make the decision about the feasibility of the identified potential mitigations.

For intersections that cannot be improved without substantial additional right-of-way according to both the Circulation Element and the individual transportation impact study, and where other mitigations such as updating signal timing, signal phasing and operations, and/or signing and striping improvements do not improve the LOS, LOS E or F will be considered acceptable and the one percent threshold would not apply. Analysis of signalized intersection LOS should still be presented for informational purposes, and there should still be an evaluation of effects on safety and local access, per Policy CIR-18.

C. UNSIGNALIZED INTERSECTIONS (ALL WAY STOP AND SIDE STREET STOP SIGN CONTROLLED)

LOS for all way stop controlled intersections is defined as an average of the delay at all approaches. LOS for side street stop controlled intersections is defined by the delay and LOS for the worst case approach. The recommended interpretation of Policy CIR-16 regarding unsignalized intersection significance criteria is as follows:

- 1. An unsignalized intersection operates at LOS A, B, C or D during the selected peak hours without project trips, the LOS deteriorates to LOS E or F with the addition of project traffic, and the peak hour traffic signal warrant criteria should also be evaluated and presented for information purposes, or
- 2. An unsignalized intersection operates at LOS E or F during the selected peak hours without project trips and the project contributes one percent or more of the total entering traffic for all way stop controlled intersections, or 10 percent or more of the traffic on a side street approach for side street stop controlled intersections; the peak hour traffic signal warrant criteria should also be evaluated and presented for informational purposes.

All Way Stop Controlled Intersections

For the second criteria at an all way stop controlled intersection, the following equation should be used if the all way stop controlled intersection operates at LOS E or F without the project.

⁶ According to the Circulation Element dated June 8, 2008, the following intersections can be altered or expanded as a mitigation measure: SR-12/Airport Boulevard/SR-29, SR-221/SR-12/Highway 29, and several intersections along SR-29 and SR-128 north of Napa. The significance criteria shown above should apply to facilities where appropriate based upon the most recent Circulation Element chapter of the General Plan.

Project Contribution % = Project Trips ÷ Existing Volumes

Side Street Stop Controlled Intersections

For the second criteria at a side street stop controlled intersection, the following equation should be used if the side street stop controlled intersection operates at LOS E or F without the project.

Project Contribution % = Project Trips ÷ Existing Volumes

Both of those volumes are for the stop controlled approaches only. Each stop controlled approach that operates at LOS E or F should be analyzed individually.

CUMULATIVE+ PROJECT CONDITIONS

A. ARTERIAL SEGMENTS, SIGNALIZED INTERSECTIONS AND UNSIGNALIZED INTERSECTIONS

A project would cause a significant cumulative impact requiring mitigation if:

- 1. The overall amount of expected traffic growth causes conditions to deteriorate such that any of the significance criteria described above for existing conditions are met, and
- 2. The project's contribution to a significant cumulative impact would be equal to or greater than five percent of the growth in traffic from existing conditions.

A project's contribution to a cumulative condition would be calculated as the project's percentage contribution to the total growth in traffic from existing conditions.

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

- If projected daily volumes on the project driveway in combination with volumes on the roadway providing access to the project driveway meet County warrant criteria for provision of a left turn lane on the approach to the project entrance.
- If sight lines at project access driveways do not meet Caltrans stopping sight distance criteria based upon prevailing vehicle speeds.

IX. PROJECT IMPACT EVALUATION

A. TRIP GENERATION

1. METHODOLOGY

Project trip generation was determined using one of the three possible methodologies recently approved by Napa County Public Works for transportation impact study analysis. As detailed in Public Works guidance, first perform a site-specific analysis by conducting actual daily trip counts at the driveway of the project on two Fridays and two Saturdays (for winery use permit modifications). Next, determine the increment of net new daily traffic due to the use permit modification proposed project using trip rates from the use permit Winery Traffic Information/Trip Generation sheets. Based upon the two Friday and two Saturday 24-hour winery driveway counts, determine which hour on each day had the highest combined inbound + outbound traffic and determine the percent of total traffic occurring during those hours in relation to the daily counts. Apply these percentages to the net new Friday and Saturday daily traffic increments for the project to determine the amount of project traffic that would be expected to occur during the winery's peak traffic hour. Finally, assume that the winery's peak hourly traffic will occur at the same time as the ambient peak traffic time on the adjacent roadway system.

It should be noted that this analysis methodology is very conservative since it assumes that winery and adjacent roadway PM peak traffic hours will overlap, even though that is not currently the case with Paraduxx Winery and Silverado Trail. However, should the winery's peak traffic hours ever align with those of Silverado Trail, the conservative analysis contained in this study would still be valid and meet CEQA requirements.

Twenty-four-hour traffic counts were conducted on the Paraduxx Winery driveway on Friday, February 22 and July 19, 2019 as well as on Saturday, February 23 and July 20, 2019 (see **Appendix A-5**). Counts on both Fridays and Saturdays showed the peak traffic hour of the afternoon was 2:00-3:00 PM. On the two Fridays the 2:00-3:00 PM hour had 14 percent of daily traffic in February and 16 percent of daily traffic in July. On the two Saturdays the 2:00-3:00 PM hour had 16 percent of daily traffic in February and 20 percent of daily traffic in July. The higher of the two percentages from the Friday and Saturday survey days was applied to the daily project traffic increment (as shown in **Appendix A-6, County Use Permit Winery Trip Generation Sheets**).

2. **PROJECT VOLUMES**

Table 5 shows that during the harvest Friday PM peak traffic hour there would be a projected 4 inbound and 8 outbound vehicles, while during the harvest Saturday afternoon peak traffic hour there would be a projected 6 inbound and 9 outbound vehicles. Virtually all net new traffic during the Friday and Saturday PM peak hours would be due to increased visitation.

B. TRIP DISTRIBUTION

Project traffic was distributed to Silverado Trail in a pattern reflective of existing distribution patterns at the Paraduxx driveway intersection. Most outbound visitor and employee traffic during both PM peak hours would be expected to travel to the south on Silverado Trail. During the Friday PM peak hour the majority of inbound traffic on Silverado Trail would come from the north, while during the Saturday afternoon peak hour it would come from the south.

The harvest Friday and Saturday project traffic increments expected on Silverado Trail during the times of ambient peak traffic flows are presented in **Figure 7**. Friday and Saturday "With Project" PM peak hour harvest volumes for year 2016 are presented in **Figure 8**; "With Project" PM peak hour harvest volumes for year 2020 conditions are presented in **Figure 9**, and "With Project" PM peak hour harvest volumes for cumulative (year 2030) conditions are presented in **Figure 10**.

C. OFF-SITE IMPACTS

1. EXISTING (2016) HARVEST + PROJECT CONDITIONS

a. SUMMARY

Project traffic would not result in any significant level of service impacts along Silverado Trail or at the Silverado Trail intersections with Oakville Cross Road or Yountville Cross Road during either the Friday or Saturday PM peak traffic hours. Also, the Silverado Trail/Paraduxx Winery intersection would be operating at an acceptable level of service with the addition of project traffic. *Less than significant.*

b. 2016 INTERSECTION LEVEL OF SERVICE IMPACTS – see Table 2

Silverado Trail/Oakville Cross Road

o Friday PM Peak Hour

Operation of the stop sign controlled Oakville Cross Road intersection approach would remain an unacceptable LOS F with the addition of project traffic. The project would not increase volumes on the stop sign controlled Oakville Cross Road approach to Silverado Trail by 10 percent or greater (0.9%).⁷ Less than significant.

o Saturday PM Peak Hour

Operation of the stop sign controlled Oakville Cross Road intersection approach would remain an unacceptable LOS E with the addition of project traffic. The project would not increase volumes on the stop sign controlled Oakville Cross Road approach to Silverado Trail by 10 percent or greater (0%).⁷ Less than significant.

⁷ County of Napa significance criteria.

• Silverado Trail/Yountville Cross Road

o Friday PM Peak Hour

Operation of the stop sign controlled Yountville Cross Road intersection approach would remain an unacceptable LOS E with the addition of project traffic. The project would not increase volumes on the stop sign controlled Yountville Cross Road approach to Silverado Trail by 10 percent or greater (0%).⁸ Less than significant.

• Saturday PM Peak Hour

Operation of the stop sign controlled Yountville Cross Road intersection approach would remain an acceptable LOS C with the addition of project traffic. *Less than significant.*

• Silverado Trail/Paraduxx Winery Driveway

- Friday PM Peak Hour
 Operation of the Paraduxx Winery approach to Silverado Trail would remain an acceptable LOS D with the addition of project traffic.
- o Saturday PM Peak Hour

Operation of the Paraduxx Winery approach to Silverado Trail would remain an acceptable LOS C with the addition of project traffic.

c. 2016 ARTERIAL SEGMENT IMPACTS – see Table 3

• Silverado Trail North of Paraduxx Winery

• Friday PM Peak Hour

Operation would remain LOS E in both directions. The project would not increase total segment volumes by 1 percent or more (0.3%).⁸ Less than significant.

• Saturday PM Peak Hour

Operation would remain LOS E in both directions. The project would not increase total segment volumes by 1 percent or more (0.3%).⁸ Less than significant.

• Silverado Trail South of Paraduxx Winery

- Friday PM Peak Hour
 Operation would remain LOS E in both directions. The project would not increase total segment volumes by 1 percent or more (0.4%).⁸ Less than significant.
- o Saturday PM Peak Hour

Operation would remain LOS E in both directions. The project would not increase total segment volumes by 1 percent or more (0.6%).⁸ Less than significant.

⁸ County of Napa significance criteria.

d. 2016 SIGNAL WARRANT EVALUATION – see Table 4

Signal warrant information is provided for informational purposes only per County significance criteria.

- Silverado Trail/Oakville Cross Road
 - Friday PM Peak Hour

Volumes would be exceeding urban and rural peak hour signal warrant criteria with or without project traffic.

 Saturday PM Peak Hour Volumes would be exceeding urban and rural peak hour signal warrant criteria with or without project traffic.

• Silverado Trail/Yountville Cross Road

- Friday PM Peak Hour
 Volumes would be exceeding urban and rural peak hour signal warrant criteria with or without project traffic.
- Saturday PM Peak Hour
 Volumes would be exceeding urban and rural peak hour signal warrant criteria with or without project traffic.

2. YEAR 2020 HARVEST + PROJECT CONDITIONS

a. SUMMARY

Project traffic would not result in any significant level of service impacts at the Silverado Trail intersections with Oakville Cross Road or Yountville Cross Road during either the Friday or Saturday PM peak traffic hours. Also, the Silverado Trail/Paraduxx Winery intersection would be operating at an acceptable level of service with the addition of project traffic. *Less than significant.*

b. 2020 INTERSECTION LEVEL OF SERVICE IMPACTS – see Table 2

• Silverado Trail/Oakville Cross Road

o Friday PM Peak Hour

Operation of the stop sign controlled Oakville Cross Road intersection approach would remain an unacceptable LOS F with the addition of project traffic. The project would not increase volumes on the stop sign controlled Oakville Cross Road approach to Silverado Trail by 10 percent or greater (0.7%).⁹ *Less than significant.*

⁹ County of Napa significance criteria.

• Saturday PM Peak Hour

Operation of the stop sign controlled Oakville Cross Road intersection approach would remain an unacceptable LOS E with the addition of project traffic. The project would not increase volumes on the stop sign controlled Oakville Cross Road approach to Silverado Trail by 10 percent or greater (0%).¹⁰ Less than significant.

• Silverado Trail/Yountville Cross Road

o Friday PM Peak Hour

Operation of the stop sign controlled Yountville Cross Road intersection approach would remain an unacceptable LOS E with the addition of project traffic. The project would not increase volumes on the stop sign controlled Yountville Cross Road approach to Silverado Trail by 10 percent or greater (0%).¹⁰ *Less than significant.*

o Saturday PM Peak Hour

Operation of the stop sign controlled Yountville Cross Road intersection approach would remain an acceptable LOS D with the addition of project traffic. *Less than significant.*

• Silverado Trail/Paraduxx Winery Driveway

- Friday PM Peak Hour
 Operation of the Paraduxx Winery approach to Silverado Trail would remain LOS D with the addition of project traffic.
- Saturday PM Peak Hour

Operation of the Paraduxx Winery approach to Silverado Trail would remain LOS C with the addition of project traffic.

c. 2020 ARTERIAL SEGMENT IMPACTS – see Table 3

• Silverado Trail North of Paraduxx Winery

Friday PM Peak Hour
 Operation would remain LOS E in both directions. The project would not increase total segment volumes by 1 percent or more (0.3%).¹⁰ Less than significant.

o Saturday PM Peak Hour

Operation would remain LOS E in both directions. The project would not increase total segment volumes by 1 percent or more (0.3%).¹⁰ *Less than significant.*

• Silverado Trail South of Paraduxx Winery

• Friday PM Peak Hour

Operation would remain LOS E in both directions. The project would not increase total segment volumes by 1 percent or more (0.4%).¹⁰ Less than significant.

¹⁰ County of Napa significance criteria.

• Saturday PM Peak Hour

Operation would remain LOS E in both directions. The project would not increase total segment volumes by 1 percent or more (0.6%).¹¹ Less than significant.

d. 2020 SIGNAL WARRANT EVALUATION – see Table 4

Signal warrant information is provided for informational purposes only per County significance criteria.

Silverado Trail/Oakville Cross Road

- Friday PM Peak Hour
 Volumes would be exceeding urban and rural peak hour signal warrant criteria with or without project traffic.
- Saturday PM Peak Hour Volumes would be exceeding urban and rural peak hour signal warrant criteria with or without project traffic.

Silverado Trail/Yountville Cross Road

o Friday PM Peak Hour

Volumes would be exceeding urban and rural peak hour signal warrant criteria with or without project traffic.

• Saturday PM Peak Hour

Volumes would be exceeding urban and rural peak hour signal warrant criteria with or without project traffic.

3. CUMULATIVE (YEAR 2030) HARVEST + PROJECT CONDITIONS

a. SUMMARY

Project traffic would not result in any significant level of service impacts at the Silverado Trail intersections with Oakville Cross Road or Yountville Cross Road during either the Friday or Saturday PM peak traffic hours. Also, the Silverado Trail/Paraduxx Winery intersection would be operating at an acceptable level of service with the addition of project traffic. *Less than significant.*

¹¹ County of Napa significance criteria.

b. 2030 INTERSECTION LEVEL OF SERVICE IMPACTS – see Table 2

• Silverado Trail/Oakville Cross Road

o Friday PM Peak Hour

Operation of the stop sign controlled Oakville Cross Road intersection approach would remain an unacceptable LOS F with the addition of project traffic. The project would not change the increase in volumes from Existing to Cumulative conditions on the stop sign controlled Oakville Cross Road approach to Silverado Trail by 5 percent or greater (1.4%).¹² Less than significant.

o Saturday PM Peak Hour

Operation of the stop sign controlled Oakville Cross Road intersection approach would remain an unacceptable LOS F with the addition of project traffic. The project would not change the increase in volumes from Existing to Cumulative conditions on the stop sign controlled Oakville Cross Road approach to Silverado Trail by 5 percent or greater (0%).¹² Less than significant.

• Silverado Trail/Yountville Cross Road

o Friday PM Peak Hour

Operation of the stop sign controlled Yountville Cross Road intersection approach would remain an unacceptable LOS F with the addition of project traffic. The project would not change the increase in volumes from Existing to Cumulative conditions on the stop sign controlled Yountville Cross Road approach to Silverado Trail by 5 percent or greater (0%).¹² Less than significant.

• Saturday PM Peak Hour

Operation of the stop sign controlled Yountville Cross Road intersection approach would remain an acceptable LOS D with the addition of project traffic. *Less than significant.*

• Silverado Trail/Paraduxx Winery Driveway

- Friday PM Peak Hour
 Operation of the Paraduxx Winery approach to Silverado Trail would remain LOS D with the addition of project traffic.
- Saturday PM Peak Hour

Operation of the Paraduxx Winery approach to Silverado Trail would remain LOS C with the addition of project traffic.

¹² County of Napa significance criteria.

c. 2030 Arterial Segment Impacts – see Table 3

• Silverado Trail North of Paraduxx Winery

o Friday PM Peak Hour

Operation would remain LOS E in both directions. The project would not increase the change in two-way segment volumes between 2016 and 2030 by 5 percent or more (1.95%).¹³ Less than significant.

• Saturday PM Peak Hour

Operation would remain LOS E in both directions. The project would not increase the change in two-way segment volumes between 2016 and 2030 by 5 percent or more (2.47%).¹³ *Less than significant.*

• Silverado Trail South of Paraduxx Winery

• Friday PM Peak Hour

Operation would remain LOS E in both directions. The project would not increase the change in two-way segment volumes between 2016 and 2030 by 5 percent or more (2.73%).¹³ Less than significant.

o Saturday PM Peak Hour

Operation would remain LOS E in both directions. The project would not increase the change in two-way segment volumes between 2016 and 2030 by 5 percent or more (4.95%).¹³ Less than significant.

d. 2030 SIGNAL WARRANT EVALUATION – see Table 4

Signal warrant information is provided for informational purposes only per County significance criteria.

• Silverado Trail/Oakville Cross Road

- Friday PM Peak Hour
 Volumes would be exceeding urban and rural peak hour signal warrant criteria with or without project traffic.
 - Saturday PM Peak Hour

Volumes would be exceeding urban and rural peak hour signal warrant criteria with or without project traffic.

Silverado Trail/Yountville Cross Road

o Friday PM Peak Hour

Volumes would be exceeding urban and rural peak hour signal warrant criteria with or without project traffic.

¹³ County of Napa significance criteria.

• Saturday PM Peak Hour

Volumes would be exceeding urban and rural peak hour signal warrant criteria with or without project traffic.

X. OTHER POTENTIAL PROJECT IMPACTS

A. SIGHT LINES AT PROJECT ENTRANCE

Sight lines at the Silverado Trail/project access driveway intersection are currently acceptable to the north and south along Silverado Trail (at more than 900 feet in each direction).

Sight line to the north along Silverado Trail (to see southbound vehicles) 900+ feet Sight line to the south along Silverado Trail (to see northbound vehicles) 1,000+ feet

The Caltrans Highway Design Manual (March 2014) states that stopping sight distance is the corner sight distance criteria to be utilized at private road connections to arterial roadways. The minimum required stopping sight distances based upon various vehicle speeds are as follows.

SPEED	MINIMUM REQUIRED STOPPING SIGHT DISTANCE
50 mph	430 feet
55 mph	500 feet
60 mph	580 feet

The posted speed limit at the project entrance is 55 miles per hour, and some vehicles were observed traveling higher than the posted limit during two field surveys by Crane Transportation Group. Based upon the 60 mile per hour criteria, resultant sight lines to the north and south along Silverado Trail from the project driveway would be acceptable. *Less than significant*.

B. LEFT TURN LANE AT PROJECT ENTRANCE

There is already a left turn lane on the northbound Silverado Trail approach to the Paraduxx Winery entrance as well as a median refuge area along Silverado Trail north of the driveway to assist left turn movements from the project site (see **Figure 2**). *Less than significant*.

C. MARKETING EVENTS

The number of marketing events will be reduced by 277 to 198 events, which will result in an approximate 4 percent reduction in visitors (from 8,105 down to 7,749 visitors).

	# OF EVENTS	# OF GUESTS	# OF GUEST VEHICLES	DAYS OF THE WEEK
Small Events	156	24/event	9-10	WedSat.
Medium Events*	33	60/event	20-23	WedSat.
Large Events*	2	400/event	143-154	WedSat.
Industry Open House	5	125/event	45	Sat. or Sun.
Auctions	2	300/event	108-116	FriSun.
TOTAL	198	7,749 total		

* Only the 33 medium events (with up to 60 guests/event) and the two large events (with up to 400 guests/event) are considered new and are part of the use permit modification 2018. None of these new events would begin or end between 2:30 and 5:30 PM. *Less than significant.*

XI. MITIGATION MEASURES

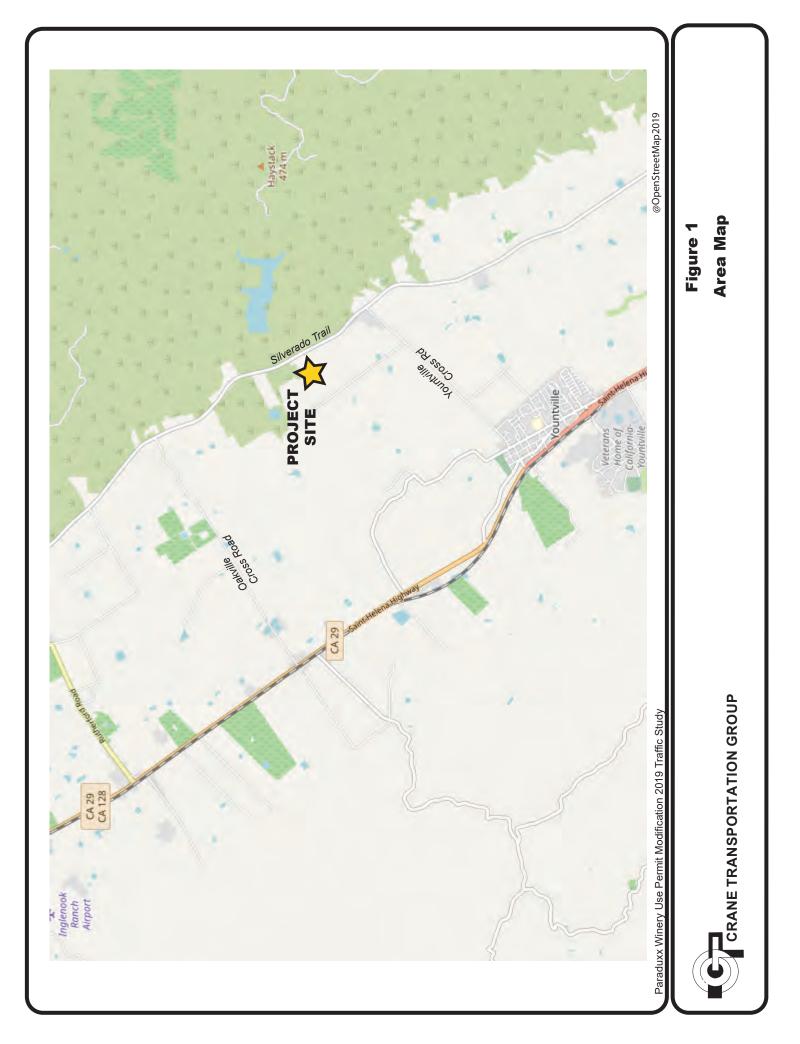
No off-site access circulation system mitigation measures are required.

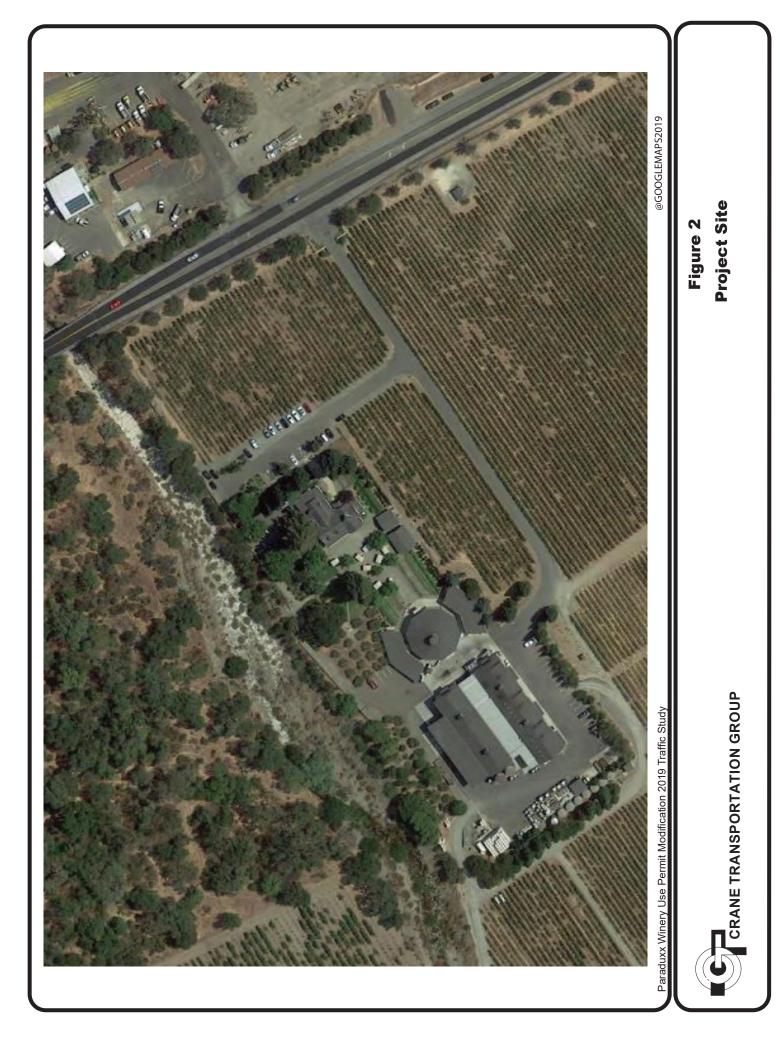
XII. CONCLUSIONS & RECOMMENDATIONS

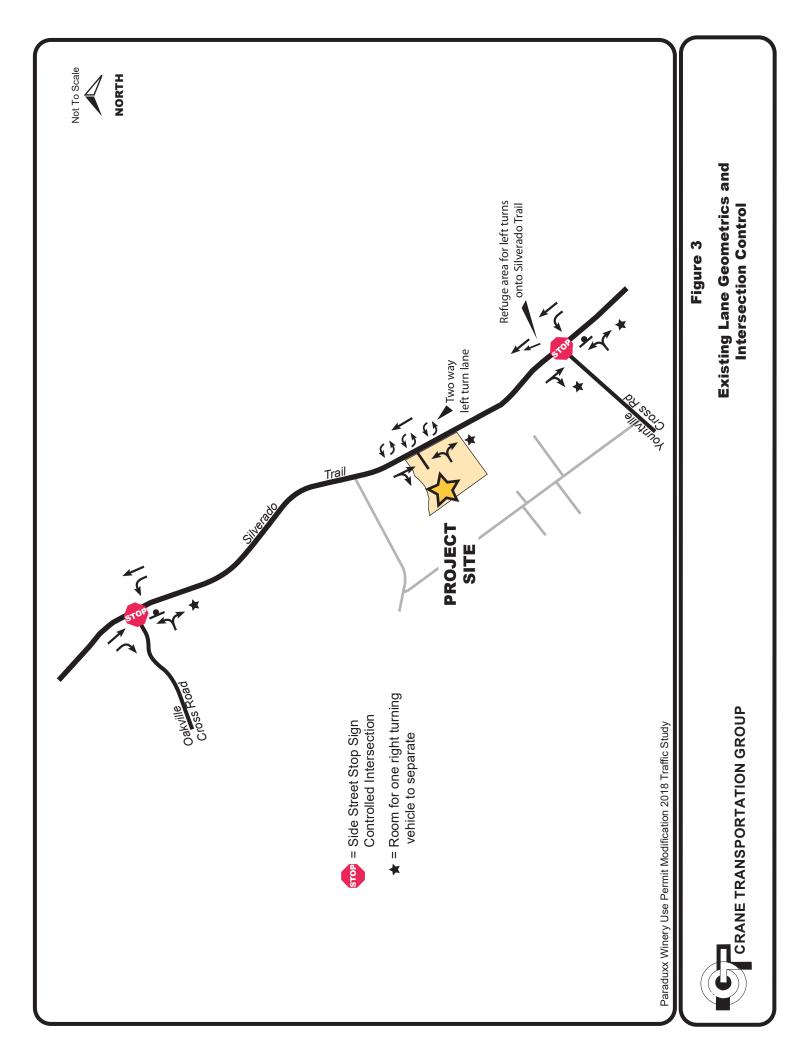
The project will result in no significant off-site circulation system operational impacts to Silverado Trail or to the Silverado Trail intersections with Oakville Cross Road, Yountville Cross Road or the winery access driveway based upon County of Napa significance criteria. It is important to note that study results are based upon a very conservative analysis wherein it assumes (based upon County methodology) that the Friday and Saturday PM peak traffic hours at the Paraduxx Winery occur at exactly the same time as the peak traffic hours along the adjacent Silverado Trail. Even though this is not the case, study results still show no off-site significant impacts and would still be valid even if the winery's peak afternoon traffic hours shift to be the same as those along Silverado Trail.

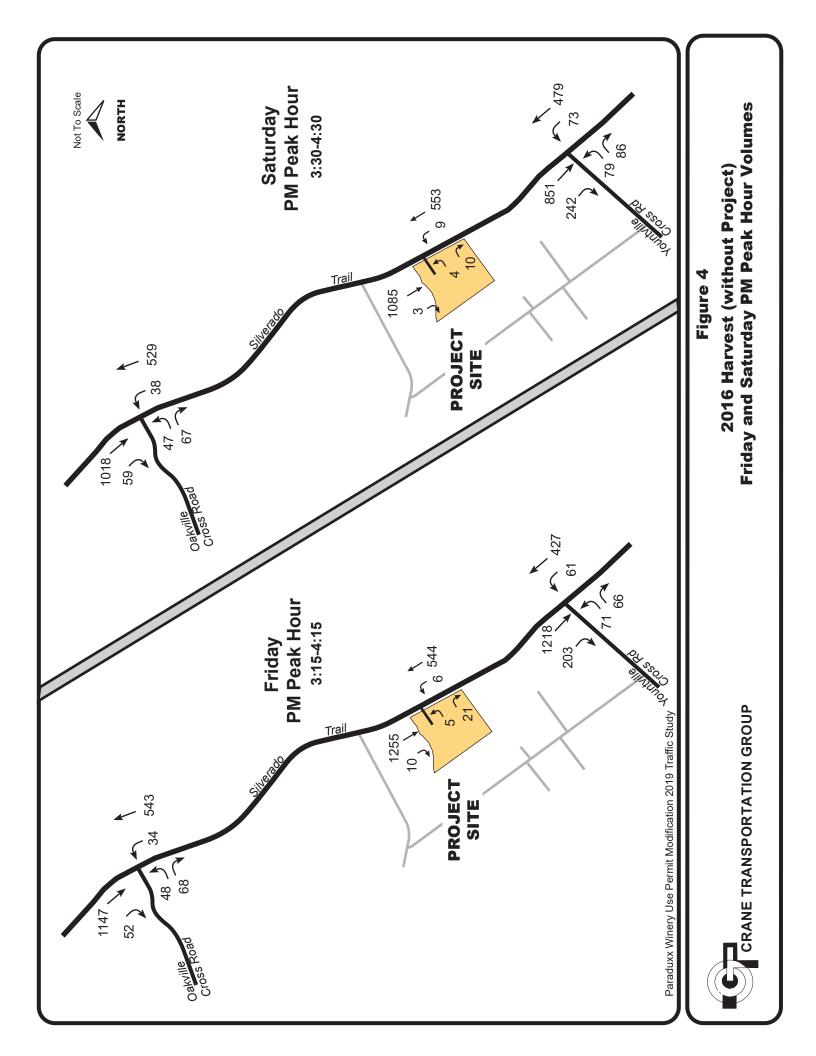
A left turn lane is already provided on the Silverado Trail northbound approach to the project driveway and a median refuge area is provided to the north of the winery driveway to assist left turn movements from the project site. In addition, sight lines at the project driveway connection to Silverado Trail are acceptable and meet Caltrans stopping sight distance criteria. The number of marketing events is being reduced from 277 down to 198 (with a reduction of about 355 yearly guests) with only 35 of the total remaining events not covered by the winery's existing use permit. For the 35 new events, none would start or end between 2:30 and 5:30 PM on a Friday or Saturday.

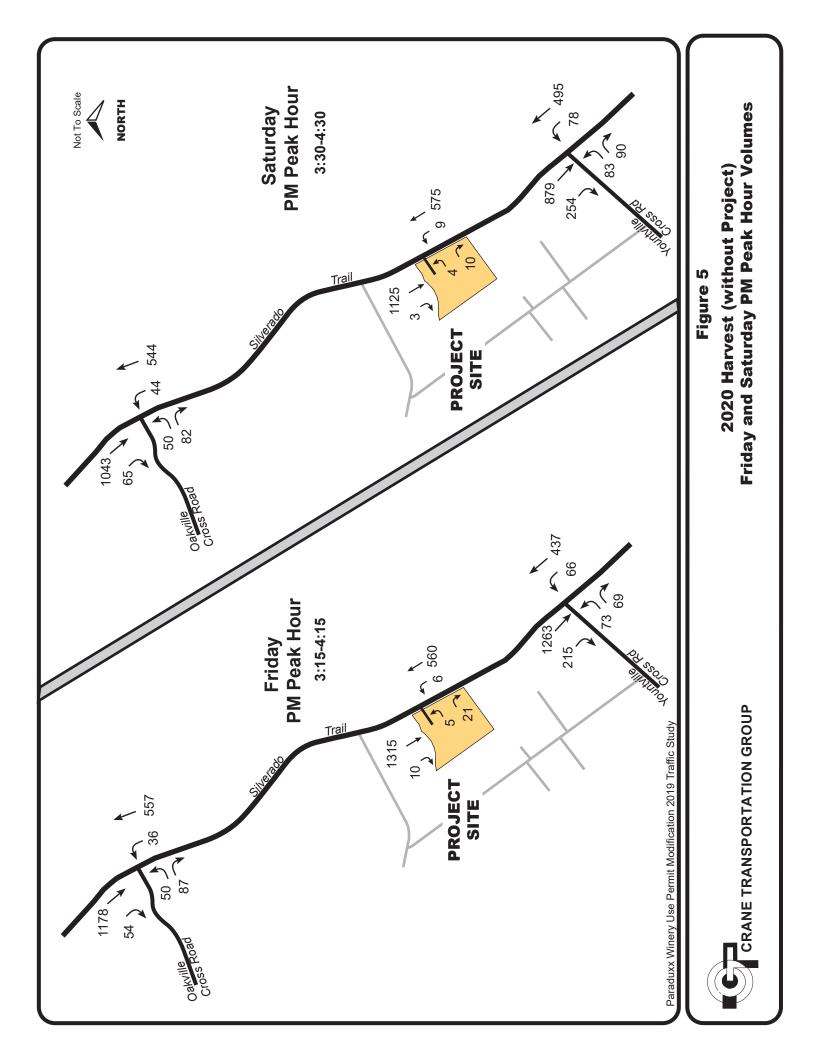
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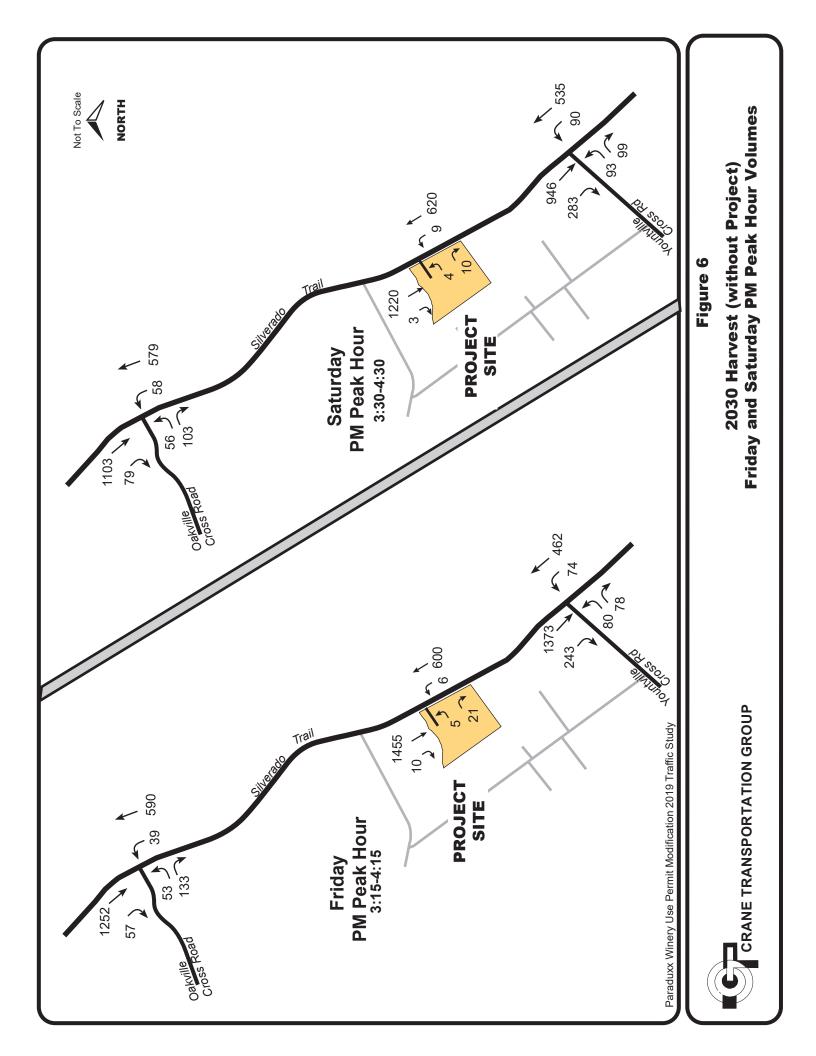


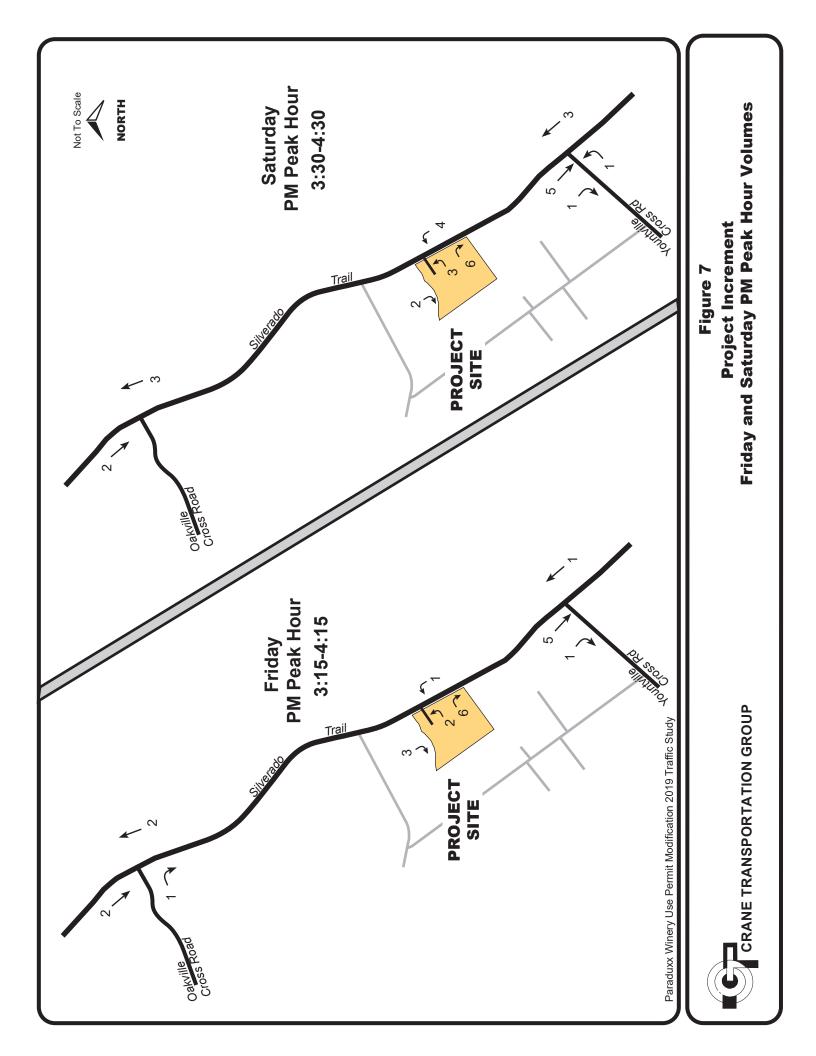


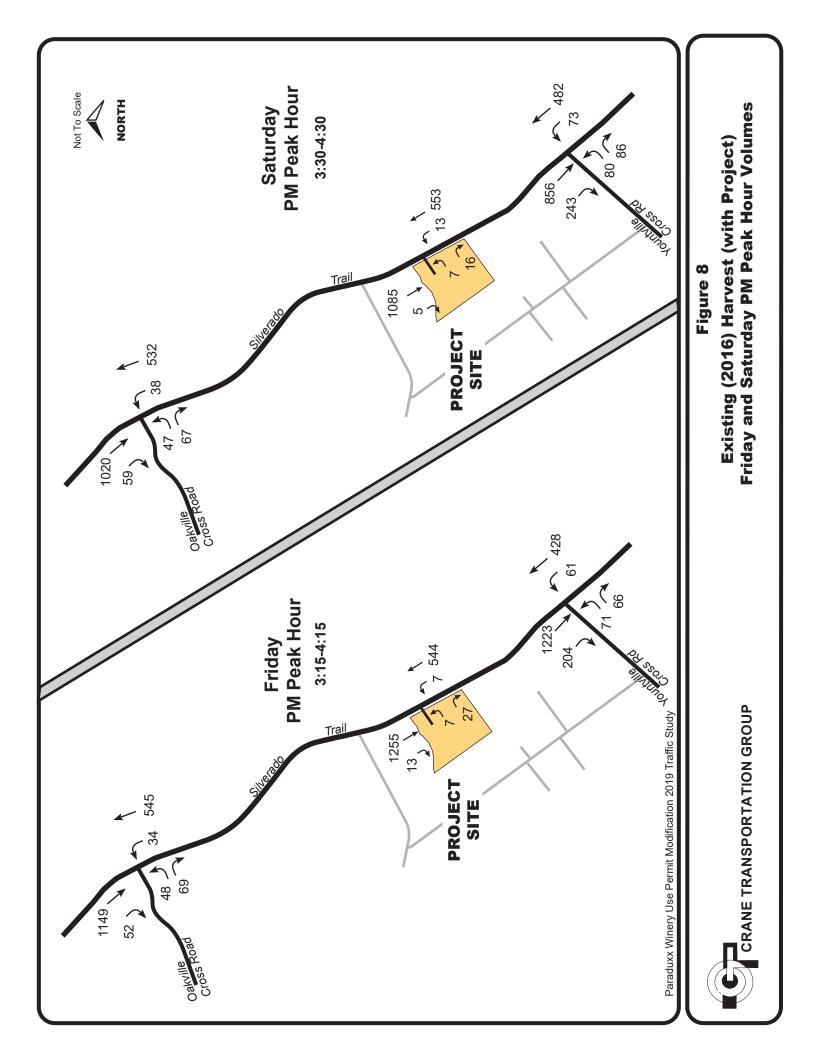


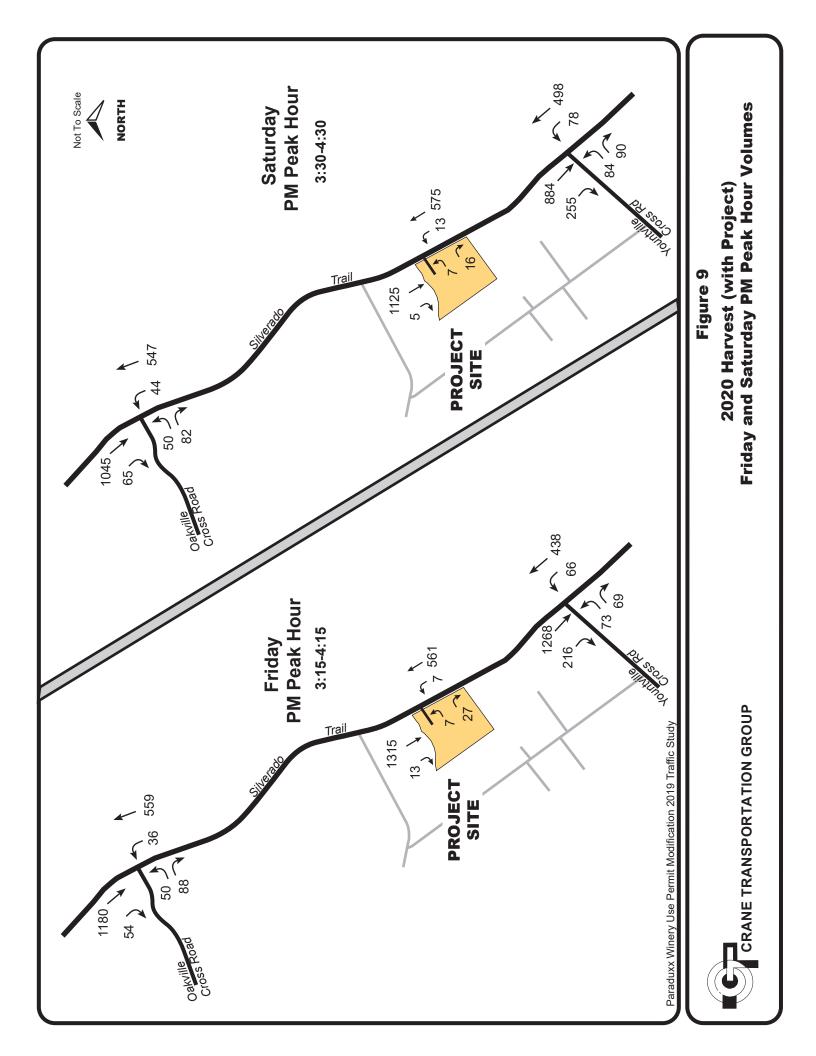


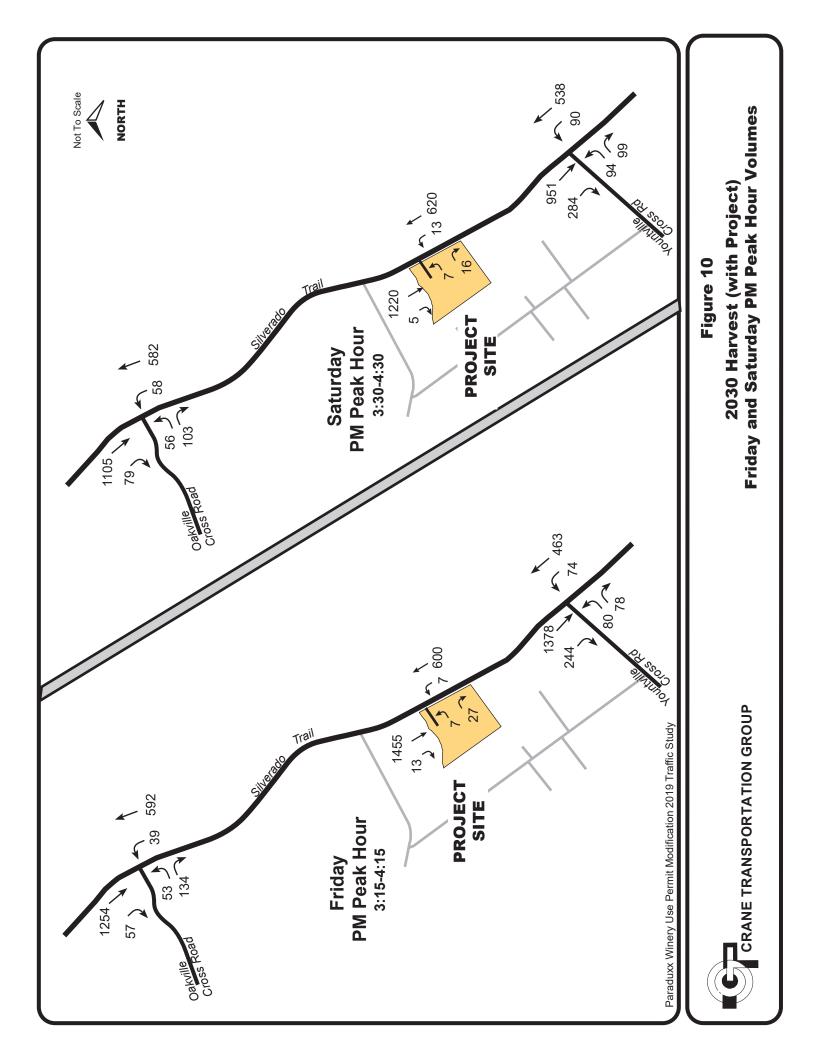












Tables

Table 1

UNSIGNALIZED INTERSECTION LOS CRITERIA

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

Source: 2017 Highway Capacity Manual Version 6 (Transportation Research Board).

Table 2 (page 1 of 2)

INTERSECTION LEVEL OF SERVICE

		PEAK HOUR :15 PM)	SATURDAY PM PEAK HOUR (3:30-4:30 PM)			
LOCATION	W/O PROJECT	WITH PROJECT	W/O PROJECT	WITH PROJECT		
Silverado Trail/Oakville Cross Road	F-81.5 ⁽¹⁾	F-83.1 (0.9%)*	E-40.9	E-41.4 (0%)		
Silverado Trail/Yountville Cross Road	E-40.2 ⁽²⁾	E-40.5 (0%)*	C-23.4	C-23.7		
Silverado Trail/Project Driveway	D-27.4 ⁽³⁾	D-28.2	C-20.1	C-20.5		

YEAR 2016 HARVEST

YEAR 2020 HARVEST

		PEAK HOUR :15 PM)	SATURDAY PM PEAK HOUR (3:30-4:30 PM)		
LOCATION	W/O PROJECT	WITH PROJECT	W/O PROJECT	WITH PROJECT	
Silverado Trail/Oakville Cross Road	F-94.4 ⁽¹⁾	F-94.4 (0.7%)*	E-45.8	E-46.3 (0%)	
Silverado Trail/Yountville Cross Road	E-45.8 ⁽²⁾	E-46.2 (0%)*	D-25.2	D-25.5	
Silverado Trail/Project Driveway	D-29.6 ⁽³⁾	D-30.8	C-20.9	C-21.4	

YEAR 2030 (CUMULATIVE) HARVEST

		PEAK HOUR :15 PM)	SATURDAY PM PEAK HOUR (3:30-4:30 PM)		
LOCATION	W/O PROJECT	WITH PROJECT	W/O PROJECT	WITH PROJECT	
Silverado Trail/Oakville Cross Road	F-104.8 ⁽¹⁾	F-107.1 (1.4%)**	F-66.4	F-66.5 (0%)	
Silverado Trail/Yountville Cross Road	F-57.9 ⁽²⁾	F-58.6 (0%)**	D-30.1	D-30.6	
Silverado Trail/Project Driveway	D-33.0 ⁽³⁾	D-34.2	C-23.1	C-23.7	

(Footnotes on next page)

Table 2 (page 2 of 2)

INTERSECTION LEVEL OF SERVICE

- (1) Unsignalized level of service control delay in seconds: Oakville Cross Rd. stop sign controlled approach to Silverado Trail.
- ⁽²⁾ Unsignalized level of service control delay in seconds: Yountville Cross Rd. stop sign controlled approach to Silverado Trail.
- ⁽³⁾ Unsignalized level of service control delay in seconds: Project Driveway stop sign controlled approach to Silverado Trail.

* Percent increase in side street stop sign controlled traffic due to project. Less than a 10% increase is considered less than significant based upon Napa County significance criteria.

** Percent increase in the growth of side street stop sign controlled traffic (from 2016 to 2030) due to project. Less than a 5% increase is considered less than significant based upon Napa County significance criteria.

6th Edition Highway Capacity Manual (HCM) Analysis Methodology for unsignalized intersections (2017) Source: Crane Transportation Group

Table 3ARTERIAL LEVEL OF SERVICE

YEAR 2016 HARVEST

	FRIDAY PM PEAK HOUR (3:15-4:15 PM)				SATUR	CDAY PN (3:30-4:		HOUR		
	W PRO	/O JECT	WI PRO.	TH JECT	% VOL DUE TO		//O JECT	WI PRO.		% VOL DUE TO
LOCATION	NB	SB	NB	SB	PROJECT	NB	SB	NB	SB	PROJECT
Silverado Trail just north of Paraduxx Driveway	E .33	E .77	E .33	E .77	0.3%*	E.37	E .73	E .37	E .73	0.3%*
Silverado Trail just south of Paraduxx Driveway	E .33	E .78	E .33	E .78	0.4%*	E.38	E .74	E .38	E .74	0.6%*

YEAR 2020 HARVEST

	FRIDAY PM PEAK HOUR (3:15-4:15 PM)			SATURDAY PM PEAK HOUI (3:30-4:30 PM)				HOUR		
	W PRO	/O JECT	WI PROJ		% VOL DUE TO		//O JECT	WI PROJ		% VOL DUE TO
LOCATION	NB	SB	NB	SB	PROJECT	NB	SB	NB	SB	PROJECT
Silverado Trail just north of Paraduxx Driveway	E .34	E .81	E.34	E .81	0.3%*	E.39	E .76	E .39	E .76	0.3%*
Silverado Trail just south of Paraduxx Driveway	E.34	E .81	E .34	E .82	0.4%*	E .39	E .76	E .39	E.77	0.6%*

YEAR 2030 (CUMULATIVE) HARVEST

	FRIDAY PM PEAK HOUR (3:15-4:15 PM)				SATUR	CDAY PN (3:30-4:		HOUR		
		/O JECT	=	ТН ЈЕСТ	% VOL DUE TO		//O JECT	WI PROJ		% VOL DUE TO
LOCATION	NB	SB	NB	SB	PROJECT ⁽¹⁾	NB	SB	NB	SB	PROJECT ⁽¹⁾
Silverado Trail just north of Paraduxx Driveway	E .37	E .89	E .37	E .89	1.95%**	E .41	E .82	E .42	E .82	2.47%**
Silverado Trail just south of Paraduxx Driveway	E .37	E .90	E .37	E .90	1.75%**	E .42	E .83	E .42	E .83	4.95%**

Level of service – volume/capacity ratio.

⁽¹⁾ Compared to 2016-2030 growth.

* Percent increase in total roadway segment volume due to project. Less than a 1% increase is considered less than significant based upon Napa County significance criteria. ** Percent increase in the growth of total roadway segment volume (from 2016 to 2030) due to project. Less than a 5% increase is considered less than significant based upon Napa County significance criteria.

Highway Capacity Manual, 6th Edition (2017) analysis methodology. Compiled by: Crane Transportation Group

Table 4

INTERSECTION SIGNAL WARRANT EVALUATION

Do Volumes Meet Caltrans Peak Hour Warrant #3 Volume Criteria Levels? (results presented for informational purposes only)

		PEAK HOUR :15 PM)	SATURDAY PM PEAK HOUR (3:30-4:30 PM)		
LOCATION	W/O PROJECT	WITH PROJECT	W/O PROJECT	WITH PROJECT	
Silverado Trail/Oakville Cross Road	Yes	Yes	Yes	Yes	
Silverado Trail/Yountville Cross Road	Yes	Yes	Yes	Yes	

YEAR 2016 HARVEST

YEAR 2020 HARVEST

		PEAK HOUR :15 PM)	SATURDAY PM PEAK HOU (3:30-4:30 PM)		
LOCATION	W/O PROJECT	WITH PROJECT	W/O PROJECT	WITH PROJECT	
Silverado Trail/Oakville Cross Road	Yes	Yes	Yes	Yes	
Silverado Trail/Yountville Cross Road	Yes	Yes	Yes	Yes	

YEAR 2030 (CUMULATIVE) HARVEST

		PEAK HOUR :15 PM)	SATURDAY PM PEAK HOU (3:30-4:30 PM)		
LOCATION	W/O PROJECT	WITH PROJECT	W/O PROJECT	WITH PROJECT	
Silverado Trail/Oakville Cross Road	Yes	Yes	Yes	Yes	
Silverado Trail/Yountville Cross Road	Yes	Yes	Yes	Yes	

Criteria: Caltrans Manual of Uniform Traffic Control Devices, Revision 3, 2018 Source: Crane Transportation Group

Table 5

PROJECT PM PEAK HOUR TRIP GENERATION

CRUSH FRIDAY

	DAILY 2- WAY TRIPS*	PM PEAK HOUR %**	PM PEAK HOUR 2-WAY TRIPS
Existing	163		
Existing + Project	236		
Net Increase	73	16%	12

CRUSH SATURDAY

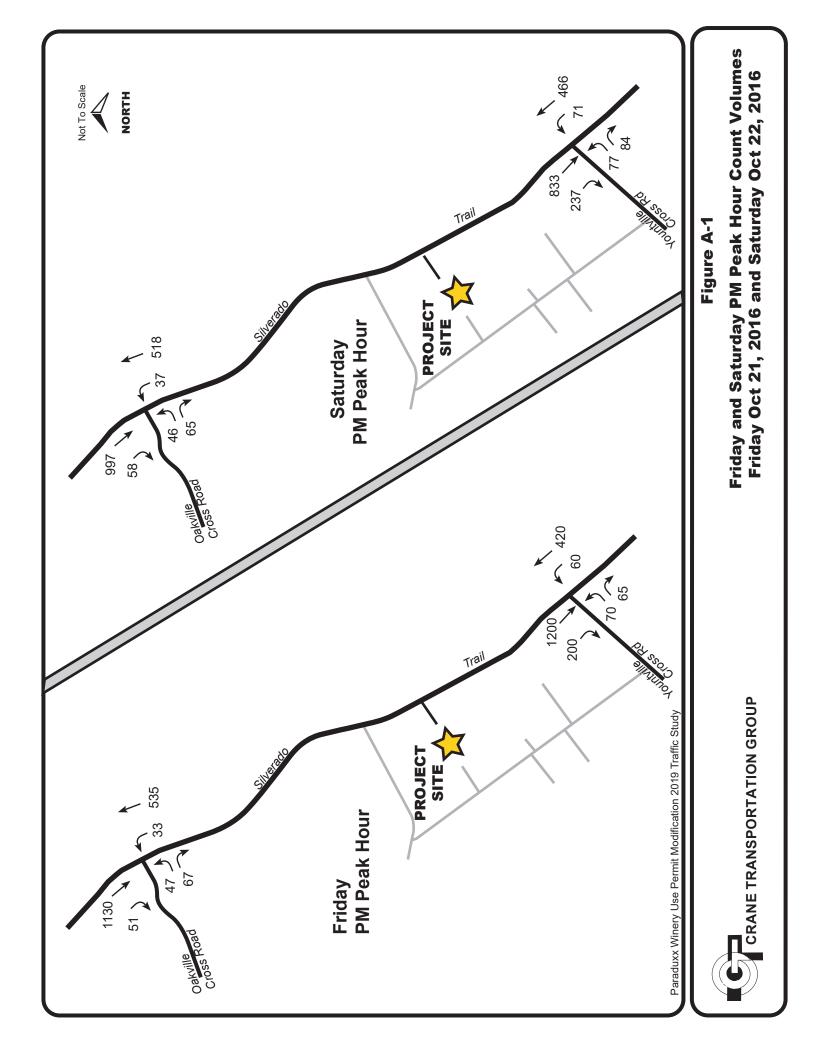
	DAILY 2- WAY TRIPS*	PM PEAK HOUR %**	PM PEAK HOUR 2-WAY TRIPS
Existing			
Existing + Project	206		
Net Increase	72	20%	15

* Source: Paraduxx Winery Traffic Information/Trip Generation Sheet.

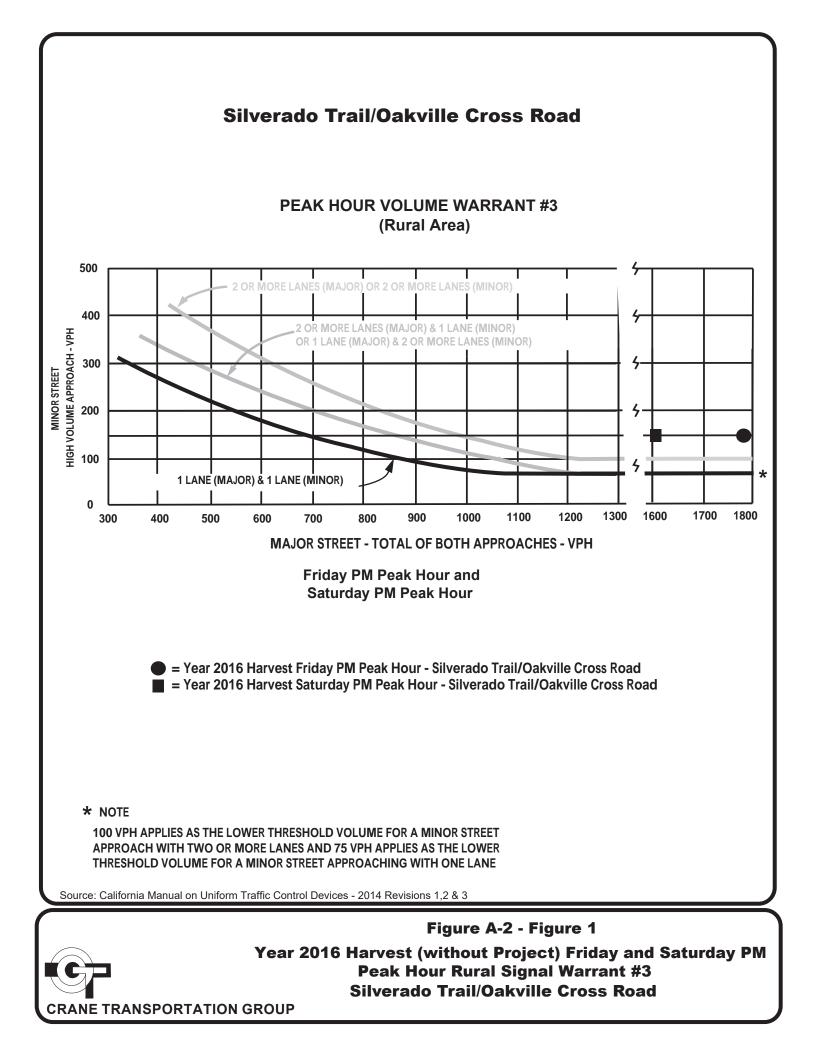
** Source: Paraduxx Driveway 24-hour count results – maximum hourly inbound + outbound percent of daily volumes from two Fridays and two Saturdays.

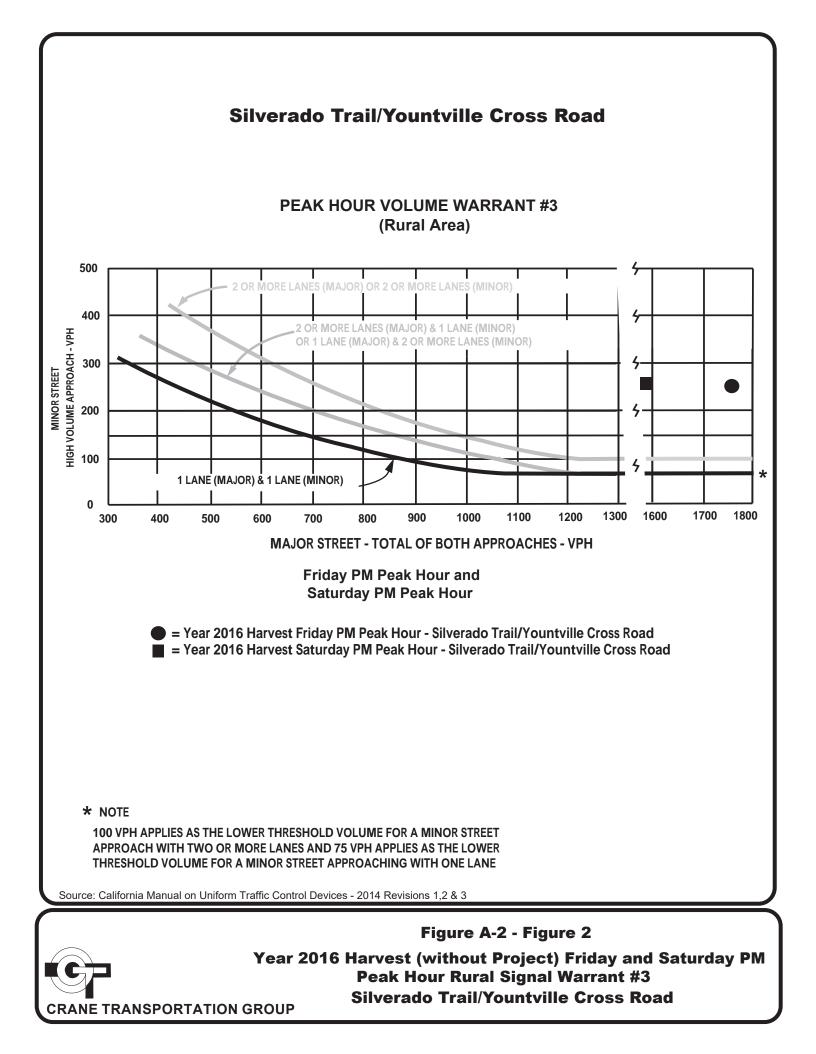
Compiled by: Crane Transportation Group

Appendix 1



Appendix 2





Appendix 3

Int Delay, s/veh	5.2					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	7	1	٦	1	1	1
Traffic Vol, veh/h	48	68	34	543	1147	52
Future Vol, veh/h	48	68	34	543	1147	52
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	25	100	-	-	75
Veh in Median Storage	,# 0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	91	91	91	91	91	91
Heavy Vehicles, %	2	0	0	2	2	4
Mvmt Flow	53	75	37	597	1260	57

Major/Minor	Minor2	ľ	Major1	Maj	jor2		
Conflicting Flow All	1931	1260	1317	0	-	0	
Stage 1	1260	-	-	-	-	-	
Stage 2	671	-	-	-	-	-	
Critical Hdwy	6.42	6.2	4.1	-	-	-	
Critical Hdwy Stg 1	5.42	-	-	-	-	-	
Critical Hdwy Stg 2	5.42	-	-	-	-	-	
Follow-up Hdwy	3.518	3.3	2.2	-	-	-	
Pot Cap-1 Maneuver	73	210	532	-	-	-	
Stage 1	267	-	-	-	-	-	
Stage 2	508	-	-	-	-	-	
Platoon blocked, %				-	-	-	
Mov Cap-1 Maneuver	68	210	532	-	-	-	
Mov Cap-2 Maneuver	68	-	-	-	-	-	
Stage 1	248	-	-	-	-	-	
Stage 2	508	-	-	-	-	-	
					-		

Approach	EB	NB	SB	
HCM Control Delay, s	81.5	0.7	0	
HCM LOS	F			

Minor Lane/Major Mvmt	NBL	NBT EBLn1	EBLn2	SBT	SBR	
Capacity (veh/h)	532	- 68	210	-	-	
HCM Lane V/C Ratio	0.07	- 0.776	0.356	-	-	
HCM Control Delay (s)	12.3	- 152.5	31.3	-	-	
HCM Lane LOS	В	- F	D	-	-	
HCM 95th %tile Q(veh)	0.2	- 3.6	1.5	-	-	

08-14-2019

Int Delay, s/veh	3.1					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	٦	1	٦	1	1	1
Traffic Vol, veh/h	71	66	61	427	1218	203
Future Vol, veh/h	71	66	61	427	1218	203
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	25	250	-	-	75
Veh in Median Storage	, # 1	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	93	93	93	93	93	93
Heavy Vehicles, %	4	4	4	1	2	4
Mvmt Flow	76	71	66	459	1310	218

Major/Minor	Minor2	1	Major1	Ν	/lajor2			
Conflicting Flow All	1901	1310	1528	0	-	0		
Stage 1	1310	-	-	-	-	-		
Stage 2	591	-	-	-	-	-		
Critical Hdwy	6.44	6.24	4.14	-	-	-		
Critical Hdwy Stg 1	5.44	-	-	-	-	-		
Critical Hdwy Stg 2	5.44	-	-	-	-	-		
Follow-up Hdwy	3.536	3.336	2.236	-	-	-		
Pot Cap-1 Maneuver	~ 75	192	430	-	-	-		
Stage 1	250	-	-	-	-	-		
Stage 2	549	-	-	-	-	-		
Platoon blocked, %				-	-	-		
Mov Cap-1 Maneuver		192	430	-	-	-		
Mov Cap-2 Maneuver		-	-	-	-	-		
Stage 1	212	-	-	-	-	-		
Stage 2	549	-	-	-	-	-		
Approach	EB		NB		SB			
HCM Control Delay, s	40.2		1.9		0			
HCM LOS	E							
Minor Lane/Major Mvi	mt	NBL	NBT E	EBLn1 E	EBLn2	SBT	SBR	
Capacity (veh/h)		430	-	162	192	-	-	
HCM Lane V/C Ratio		0.153	-	0.471	0.37	-	-	
HCM Control Delay (s	5)	14.9	-	45.6	34.3	-	-	
HCM Lane LOS	,	В	-	E	D	-	-	
HCM 95th %tile Q(vel	h)	0.5	-	2.2	1.6	-	-	
Notes								
~: Volume exceeds ca	apacity	\$: De	elav exc	eeds 30)0s +	-: Com	outation Not Defined	*: All major volume in platoon

08-14-2019

Int Delay, s/veh	0.4						
Movement	EBL	EBR	NBL	NBT	SBT	SBR	ł
Lane Configurations	٢	1	٢	1	f,		
Traffic Vol, veh/h	5	21	6	544	1255	10)
Future Vol, veh/h	5	21	6	544	1255	10)
Conflicting Peds, #/hr	0	0	0	0	0	0)
Sign Control	Stop	Stop	Free	Free	Free	Free	;
RT Channelized	-	None	-	None	-	None	;
Storage Length	0	25	0	-	-	-	•
Veh in Median Storage	# 1	-	-	0	0	-	-
Grade, %	0	-	-	0	0	-	
Peak Hour Factor	92	92	92	92	92	92	2
Heavy Vehicles, %	0	0	0	3	3	0)
Mvmt Flow	5	23	7	591	1364	11	

Major/Minor	Minor2	ľ	Major1	Ма	ajor2	
Conflicting Flow All	1975	1370	1375	0	-	0
Stage 1	1370	-	-	-	-	-
Stage 2	605	-	-	-	-	-
Critical Hdwy	6.4	6.2	4.1	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	69	181	505	-	-	-
Stage 1	238	-	-	-	-	-
Stage 2	549	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	r 68	181	505	-	-	-
Mov Cap-2 Maneuver	r 175	-	-	-	-	-
Stage 1	235	-	-	-	-	-
Stage 2	549	-	-	-	-	-
A 1			ND		00	

Approach	EB	NB	SB	
HCM Control Delay, s	27.4	0.1	0	
HCM LOS	D			

Minor Lane/Major Mvmt	NBL	NBT EBLn1	EBLn2	SBT	SBR	
Capacity (veh/h)	505	- 175	181	-	-	
HCM Lane V/C Ratio	0.013	- 0.031	0.126	-	-	
HCM Control Delay (s)	12.2	- 26.2	27.7	-	-	
HCM Lane LOS	В	- D	D	-	-	
HCM 95th %tile Q(veh)	0	- 0.1	0.4	-	-	

Int Delay, s/veh	2.9						
Movement	EBL	EBR	NBL	NBT	SBT	SBR	
Lane Configurations	7	1	٢	1	1	1	
Traffic Vol, veh/h	47	67	38	529	1018	59	
Future Vol, veh/h	47	67	38	529	1018	59	
Conflicting Peds, #/hr	0	0	0	0	0	0	
Sign Control	Stop	Stop	Free	Free	Free	Free	
RT Channelized	-	None	-	None	-	None	
Storage Length	0	25	100	-	-	75	
Veh in Median Storage	,# 0	-	-	0	0	-	
Grade, %	0	-	-	0	0	-	
Peak Hour Factor	98	98	98	98	98	98	
Heavy Vehicles, %	0	0	0	0	0	0	
Mvmt Flow	48	68	39	540	1039	60	

Minor2	ľ	Major1	Maj	or2		
1657	1039	1099	0	-	0	
1039	-	-	-	-	-	
618	-	-	-	-	-	
6.4	6.2	4.1	-	-	-	
5.4	-	-	-	-	-	
5.4	-	-	-	-	-	
3.5	3.3	2.2	-	-	-	
109	283	643	-	-	-	
344	-	-	-	-	-	
542	-	-	-	-	-	
			-	-	-	
	283	643	-	-	-	
102	-	-	-	-	-	
323	-	-	-	-	-	
542	-	-	-	-	-	
	1657 1039 618 6.4 5.4 5.4 3.5 109 344 542 - 102 102 323	1657 1039 1039 - 618 - 6.4 6.2 5.4 - 5.5 3.3 109 283 344 - 542 - 102 283 102 - 323 -	1657 1039 1099 1039 - - 618 - - 6.4 6.2 4.1 5.4 - - 5.4 - - 3.5 3.3 2.2 109 283 643 344 - - 542 - - 102 283 643 102 - - 323 - -	$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	$\begin{array}{c ccccccccccccccccccccccccccccccccccc$

Approach	EB	NB	SB
HCM Control Delay, s	40.9	0.7	0
HCM LOS	Е		

Minor Lane/Major Mvmt	NBL	NBT E	BLn1	EBLn2	SBT	SBR	
Capacity (veh/h)	643	-	102	283	-	-	
HCM Lane V/C Ratio	0.06	-	0.47	0.242	-	-	
HCM Control Delay (s)	11	-	68.3	21.7	-	-	
HCM Lane LOS	В	-	F	С	-	-	
HCM 95th %tile Q(veh)	0.2	-	2	0.9	-	-	

Int Delay, s/veh	2.6					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	5	1	5	1	1	1
Traffic Vol, veh/h	79	86	73	479	851	242
Future Vol, veh/h	79	86	73	479	851	242
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	25	250	-	-	75
Veh in Median Storage,	# 1	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	83	91	77	504	896	255

Minor2		Major1	Мај	or2	
1554	896	1151	0	-	0
896	-	-	-	-	-
658	-	-	-	-	-
6.4	6.2	4.1	-	-	-
5.4	-	-	-	-	-
5.4	-	-	-	-	-
3.5	3.3	2.2	-	-	-
126	342	614	-	-	-
402	-	-	-	-	-
519	-	-	-	-	-
			-	-	-
r 110	342	614	-	-	-
r 239	-	-	-	-	-
352	-	-	-	-	-
519	-	-	-	-	-
r	896 658 6.4 5.4 3.5 126 402 519 r 110 r 239 352	896 - 658 - 6.4 6.2 5.4 - 5.4 - 3.5 3.3 126 342 402 - 519 - r 110 342 r 239 - 352 -	$\begin{array}{cccccccccccccccccccccccccccccccccccc$	$\begin{array}{cccccccccccccccccccccccccccccccccccc$	$\begin{array}{cccccccccccccccccccccccccccccccccccc$

Approach	EB	NB	SB
HCM Control Delay, s	23.4	1.5	0
HCM LOS	С		

Minor Lane/Major Mvmt	NBL	NBT E	BLn1	EBLn2	SBT	SBR	
Capacity (veh/h)	614	-	239	342	-	-	
HCM Lane V/C Ratio	0.125	-	0.348	0.265	-	-	
HCM Control Delay (s)	11.7	-	27.9	19.3	-	-	
HCM Lane LOS	В	-	D	С	-	-	
HCM 95th %tile Q(veh)	0.4	-	1.5	1	-	-	

Int Delay, s/veh	0.2						
Movement	EBL	EBR	NBL	NBT	SBT	SBR	l
Lane Configurations	7	1	7	1	et.		
Traffic Vol, veh/h	4	10	9	553	1085	3	}
Future Vol, veh/h	4	10	9	553	1085	3	}
Conflicting Peds, #/hr	0	0	0	0	0	0)
Sign Control	Stop	Stop	Free	Free	Free	Free)
RT Channelized	-	None	-	None	-	None	;
Storage Length	0	25	0	-	-	-	•
Veh in Median Storage	# 1	-	-	0	0	-	•
Grade, %	0	-	-	0	0	-	
Peak Hour Factor	98	98	98	98	98	98	}
Heavy Vehicles, %	0	0	0	0	0	0)
Mvmt Flow	4	10	9	564	1107	3	3

Major/Minor	Minor2	1	Major1	Ма	jor2	
Conflicting Flow All	1691	1109	1110	0	-	0
Stage 1	1109	-	-	-	-	-
Stage 2	582	-	-	-	-	-
Critical Hdwy	6.4	6.2	4.1	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	104	257	637	-	-	-
Stage 1	318	-	-	-	-	-
Stage 2	563	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	· 103	257	637	-	-	-
Mov Cap-2 Maneuver	226	-	-	-	-	-
Stage 1	314	-	-	-	-	-
Stage 2	563	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	20.1	0.2	0
HCM LOS	С		

Minor Lane/Major Mvmt	NBL	NBT EBLn1 I	EBLn2	SBT	SBR	
Capacity (veh/h)	637	- 226	257	-	-	
HCM Lane V/C Ratio	0.014	- 0.018	0.04	-	-	
HCM Control Delay (s)	10.7	- 21.2	19.6	-	-	
HCM Lane LOS	В	- C	С	-	-	
HCM 95th %tile Q(veh)	0	- 0.1	0.1	-	-	

Int Delay, s/veh	6.8					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	1	1	1	•	•	7
Traffic Vol, veh/h	50	87	36	557	1178	54
Future Vol, veh/h	50	87	36	557	1178	54
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	25	100	-	-	75
Veh in Median Storage,	# 0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	91	91	91	91	91	91
Heavy Vehicles, %	2	0	0	2	2	4
Mvmt Flow	55	96	40	612	1295	59

Major/Minor	Minor2	ľ	Major1	Мај	or2		
Conflicting Flow All	1987	1295	1354	0	-	0	
Stage 1	1295	-	-	-	-	-	
Stage 2	692	-	-	-	-	-	
Critical Hdwy	6.42	6.2	4.1	-	-	-	
Critical Hdwy Stg 1	5.42	-	-	-	-	-	
Critical Hdwy Stg 2	5.42	-	-	-	-	-	
Follow-up Hdwy	3.518	3.3	2.2	-	-	-	
Pot Cap-1 Maneuver	67	200	515	-	-	-	
Stage 1	257	-	-	-	-	-	
Stage 2	497	-	-	-	-	-	
Platoon blocked, %				-	-	-	
Mov Cap-1 Maneuver	· 62	200	515	-	-	-	
Mov Cap-2 Maneuver	· 62	-	-	-	-	-	
Stage 1	237	-	-	-	-	-	
Stage 2	497	-	-	-	-	-	

Approach	EB	NB	SB
HCM Control Delay, s	94.4	0.8	0
HCM LOS	F		

Minor Lane/Major Mvmt	NBL	NBT E	BLn1 I	EBLn2	SBT	SBR
Capacity (veh/h)	515	-	62	200	-	-
HCM Lane V/C Ratio	0.077	- C).886	0.478	-	-
HCM Control Delay (s)	12.6	- 1	91.8	38.5	-	-
HCM Lane LOS	В	-	F	Е	-	-
HCM 95th %tile Q(veh)	0.2	-	4.1	2.3	-	-

Int Delay, s/veh	3.6						
Movement	EBL	EBR	NBL	NBT	SBT	SBR	l
Lane Configurations	٦	1	٦	1	1	1	[
Traffic Vol, veh/h	73	69	66	437	1263	215	,
Future Vol, veh/h	73	69	66	437	1263	215)
Conflicting Peds, #/hr	0	0	0	0	0	0	1
Sign Control	Stop	Stop	Free	Free	Free	Free	,
RT Channelized	-	None	-	None	-	None	ļ
Storage Length	0	25	250	-	-	75	j
Veh in Median Storage,	# 1	-	-	0	0	-	
Grade, %	0	-	-	0	0	-	
Peak Hour Factor	93	93	93	93	93	93)
Heavy Vehicles, %	4	4	4	1	2	4	
Mvmt Flow	78	74	71	470	1358	231	

Major/Minor	Minor2		Major1	Ν	Major2				
Conflicting Flow All	1970	1358	1589	0	-	0			
Stage 1	1358	-	-	-	-	-			
Stage 2	612	-	-	-	-	-			
Critical Hdwy	6.44	6.24	4.14	-	-	-			
Critical Hdwy Stg 1	5.44	-	-	-	-	-			
Critical Hdwy Stg 2	5.44	-	-	-	-	-			
Follow-up Hdwy		3.336		-	-	-			
Pot Cap-1 Maneuver	~ 68	180	407	-	-	-			
Stage 1	237	-	-	-	-	-			
Stage 2	537	-	-	-	-	-			
Platoon blocked, %				-	-	-			
Mov Cap-1 Maneuver		180	407	-	-	-			
Mov Cap-2 Maneuver		-	-	-	-	-			
Stage 1	196	-	-	-	-	-			
Stage 2	537	-	-	-	-	-			
Approach	EB		NB		SB				
HCM Control Delay, s	45.8		2.1		0				
HCM LOS	E								
Minor Lane/Major Mvr	nt	NBL	NBT I	EBLn1 E	EBLn2	SBT	SBR		
Capacity (veh/h)		407	-	150	180	-	-		
HCM Lane V/C Ratio		0.174	-	0.523	0.412	-	-		
HCM Control Delay (s	;)	15.7	-	52.7	38.4	-	-		
HCM Lane LOS		С	-	F	Е	-	-		
HCM 95th %tile Q(veh	ו)	0.6	-	2.6	1.8	-	-		
Notes									
~: Volume exceeds ca	apacity	\$: De	elay exc	eeds 30)0s -	+: Comp	utation Not Defined	*: All major volume in platoon	

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Int Delay, s/veh	0.4						
Movement	EBL	EBR	NBL	NBT	SBT	SBR	ł
Lane Configurations	7	1	7	1	t,		
Traffic Vol, veh/h	5	21	6	560	1315	10)
Future Vol, veh/h	5	21	6	560	1315	10)
Conflicting Peds, #/hr	0	0	0	0	0	0)
Sign Control	Stop	Stop	Free	Free	Free	Free	;
RT Channelized	-	None	-	None	-	None	;
Storage Length	0	25	0	-	-	-	-
Veh in Median Storage,	# 1	-	-	0	0	-	-
Grade, %	0	-	-	0	0	-	-
Peak Hour Factor	92	92	92	92	92	92	2
Heavy Vehicles, %	0	0	0	3	3	0)
Mvmt Flow	5	23	7	609	1429	11	

Minor2	N	Major1	Maj	or2				
2058	1435	1440	0	-	0			
1435	-	-	-	-	-			
623	-	-	-	-	-			
6.4	6.2	4.1	-	-	-			
5.4	-	-	-	-	-			
5.4	-	-	-	-	-			
3.5	3.3	2.2	-	-	-			
61	166	477	-	-	-			
222	-	-	-	-	-			
539	-	-	-	-	-			
			-	-	-			
60	166	477	-	-	-			
164	-	-	-	-	-			
219	-	-	-	-	-			
539	-	-	-	-	-			
	2058 1435 623 6.4 5.4 5.4 3.5 61 222 539 - 60 - 164 219	2058 1435 1435 - 623 - 6.4 6.2 5.4 - 5.5 3.3 61 166 222 - 539 - 60 166 164 - 219 -	2058 1435 1440 1435 - - 623 - - 6.4 6.2 4.1 5.4 - - 5.4 - - 3.5 3.3 2.2 61 166 477 222 - - 539 - - 60 166 477 164 - - 219 - -	$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	$\begin{array}{cccccccccccccccccccccccccccccccccccc$	$\begin{array}{cccccccccccccccccccccccccccccccccccc$

Approach	EB	NB	SB
HCM Control Delay, s	29.6	0.1	0
HCM LOS	D		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	477	-	164	166	-	-
HCM Lane V/C Ratio	0.014	-	0.033	0.138	-	-
HCM Control Delay (s)	12.7	-	27.7	30.1	-	-
HCM Lane LOS	В	-	D	D	-	-
HCM 95th %tile Q(veh)	0	-	0.1	0.5	-	-

Int Delay, s/veh	3.6						
Movement	EBL	EBR	NBL	NBT	SBT	SBR	
Lane Configurations	7	1	٦	1	1	1	
Traffic Vol, veh/h	50	82	44	544	1043	65	
Future Vol, veh/h	50	82	44	544	1043	65	
Conflicting Peds, #/hr	0	0	0	0	0	0	
Sign Control	Stop	Stop	Free	Free	Free	Free	
RT Channelized	-	None	-	None	-	None	
Storage Length	0	25	100	-	-	75	
Veh in Median Storage,	# 0	-	-	0	0	-	
Grade, %	0	-	-	0	0	-	
Peak Hour Factor	98	98	98	98	98	98	
Heavy Vehicles, %	0	0	0	0	0	0	
Mvmt Flow	51	84	45	555	1064	66	

Major/Minor	Minor2	ľ	Major1	Maj	or2		
Conflicting Flow All	1709	1064	1130	0	-	0	
Stage 1	1064	-	-	-	-	-	
Stage 2	645	-	-	-	-	-	
Critical Hdwy	6.4	6.2	4.1	-	-	-	
Critical Hdwy Stg 1	5.4	-	-	-	-	-	
Critical Hdwy Stg 2	5.4	-	-	-	-	-	
Follow-up Hdwy	3.5	3.3	2.2	-	-	-	
Pot Cap-1 Maneuver	101	273	626	-	-	-	
Stage 1	335	-	-	-	-	-	
Stage 2	526	-	-	-	-	-	
Platoon blocked, %				-	-	-	
Mov Cap-1 Maneuve	r 94	273	626	-	-	-	
Mov Cap-2 Maneuve	r 94	-	-	-	-	-	
Stage 1	311	-	-	-	-	-	
Stage 2	526	-	-	-	-	-	

Approach	EB	NB	SB
HCM Control Delay, s	45.8	0.8	0
HCM LOS	Е		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	626	-	94	273	-	-
HCM Lane V/C Ratio	0.072	-	0.543	0.306	-	-
HCM Control Delay (s)	11.2	-	81.6	23.9	-	-
HCM Lane LOS	В	-	F	С	-	-
HCM 95th %tile Q(veh)	0.2	-	2.4	1.3	-	-

Int Delay, s/veh	2.8					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	٦	1	7	1	1	1
Traffic Vol, veh/h	83	90	78	495	879	254
Future Vol, veh/h	83	90	78	495	879	254
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	25	250	-	-	75
Veh in Median Storage,	# 1	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	87	95	82	521	925	267

Major/Minor	Minor2	M	Major1	Maj	or2		
Conflicting Flow All	1610	925	1192	0	-	0	
Stage 1	925	-	-	-	-	-	
Stage 2	685	-	-	-	-	-	
Critical Hdwy	6.4	6.2	4.1	-	-	-	
Critical Hdwy Stg 1	5.4	-	-	-	-	-	
Critical Hdwy Stg 2	5.4	-	-	-	-	-	
Follow-up Hdwy	3.5	3.3	2.2	-	-	-	
Pot Cap-1 Maneuver	116	329	593	-	-	-	
Stage 1	389	-	-	-	-	-	
Stage 2	504	-	-	-	-	-	
Platoon blocked, %				-	-	-	
Mov Cap-1 Maneuve		329	593	-	-	-	
Mov Cap-2 Maneuver	r 227	-	-	-	-	-	
Stage 1	335	-	-	-	-	-	
Stage 2	504	-	-	-	-	-	

Approach	EB	NB	SB	
HCM Control Delay, s	25.2	1.6	0	
HCM LOS	D			

Minor Lane/Major Mvmt	NBL	NBT EBLn	1 EBLn2	SBT	SBR	
Capacity (veh/h)	593	- 22	7 329	-	-	
HCM Lane V/C Ratio	0.138	- 0.38	5 0.288	-	-	
HCM Control Delay (s)	12	- 30.	5 20.3	-	-	
HCM Lane LOS	В	- [) C	-	-	
HCM 95th %tile Q(veh)	0.5	- 1.	7 1.2	-	-	

Int Delay, s/veh	0.2						
Movement	EBL	EBR	NBL	NBT	SBT	SBR	ł
Lane Configurations	2	1	7	1	ţ,		
Traffic Vol, veh/h	4	10	9	575	1125	3	;
Future Vol, veh/h	4	10	9	575	1125	3	;
Conflicting Peds, #/hr	0	0	0	0	0	0)
Sign Control	Stop	Stop	Free	Free	Free	Free	;
RT Channelized	-	None	-	None	-	None	ļ
Storage Length	0	25	0	-	-	-	-
Veh in Median Storage	, # 1	-	-	0	0	-	-
Grade, %	0	-	-	0	0	-	-
Peak Hour Factor	98	98	98	98	98	98	;
Heavy Vehicles, %	0	0	0	0	0	0	1
Mvmt Flow	4	10	9	587	1148	3	;

Major/Minor	Minor2	1	Major1	Ма	ijor2	
Conflicting Flow All	1755	1150	1151	0	-	0
Stage 1	1150	-	-	-	-	-
Stage 2	605	-	-	-	-	-
Critical Hdwy	6.4	6.2	4.1	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	95	244	614	-	-	-
Stage 1	304	-	-	-	-	-
Stage 2	549	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	· 94	244	614	-	-	-
Mov Cap-2 Maneuver	· 215	-	-	-	-	-
Stage 1	299	-	-	-	-	-
Stage 2	549	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	20.9	0.2	0
HCM LOS	С		

Minor Lane/Major Mvmt	NBL	NBT EBLn1	EBLn2	SBT	SBR	
Capacity (veh/h)	614	- 215	244	-	-	
HCM Lane V/C Ratio	0.015	- 0.019	0.042	-	-	
HCM Control Delay (s)	11	- 22.1	20.4	-	-	
HCM Lane LOS	В	- C	С	-	-	
HCM 95th %tile Q(veh)	0	- 0.1	0.1	-	-	

Int Delay, s/veh	9.4					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	٦	1	٦	1	1	1
Traffic Vol, veh/h	53	133	39	590	1252	57
Future Vol, veh/h	53	133	39	590	1252	57
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	25	100	-	-	75
Veh in Median Storage	,# 0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	0	0	2	2	4
Mvmt Flow	56	140	41	621	1318	60

Major/Minor	Minor2	ľ	Major1	Ma	ajor2	
Conflicting Flow All	2021	1318	1378	0	-	0
Stage 1	1318	-	-	-	-	-
Stage 2	703	-	-	-	-	-
Critical Hdwy	6.42	6.2	4.1	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	64	194	504	-	-	-
Stage 1	250	-	-	-	-	-
Stage 2	491	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	59	194	504	-	-	-
Mov Cap-2 Maneuver	- 59	-	-	-	-	-
Stage 1	230	-	-	-	-	-
Stage 2	491	-	-	-	-	-
A					00	

Approach	EB	NB	SB	
HCM Control Delay	y,s 104.8	0.8	0	
HCM LOS	F			

Minor Lane/Major Mvmt	NBL	NBT EBLn1	EBLn2	SBT	SBR	
Capacity (veh/h)	504	- 59	194	-	-	
HCM Lane V/C Ratio	0.081	- 0.946	0.722	-	-	
HCM Control Delay (s)	12.8	- 215.4	60.7	-	-	
HCM Lane LOS	В	- F	F	-	-	
HCM 95th %tile Q(veh)	0.3	- 4.4	4.6	-	-	

Int Delay, s/veh	4.5					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	7	1	٦	1	1	1
Traffic Vol, veh/h	80	78	74	462	1373	243
Future Vol, veh/h	80	78	74	462	1373	243
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	25	250	-	-	75
Veh in Median Storage,	# 1	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	96	96	96	96	96	96
Heavy Vehicles, %	4	4	4	1	2	4
Mvmt Flow	83	81	77	481	1430	253

Major/Minor	Minor2		Vajor1	1	Major2			
Conflicting Flow All	2065	1430	1683	0	-	0		
Stage 1	1430	-	-	-	-	-		
Stage 2	635	-	-	-	-	-		
Critical Hdwy	6.44	6.24	4.14	-	-	-		
Critical Hdwy Stg 1	5.44	-	-	-	-	-		
Critical Hdwy Stg 2	5.44	-	-	-	-	-		
Follow-up Hdwy	3.536	3.336	2.236	-	-	-		
Pot Cap-1 Maneuver	~ 59	163	375	-	-	-		
Stage 1	218	-	-	-	-	-		
Stage 2	524	-	-	-	-	-		
Platoon blocked, %				-	-	-		
Mov Cap-1 Maneuver	· ~ 47	163	375	-	-	-		
Mov Cap-2 Maneuver	· 134	-	-	-	-	-		
Stage 1	173	-	-	-	-	-		
Stage 2	524	-	-	-	-	-		
Approach	EB		NB		SB			
HCM Control Delay, s	57.9		2.4		0			
HCM LOS	F							
Minor Lane/Major Mvi	mt	NBL	NBT	EBLn1 I	EBLn2	SBT	SBR	
Capacity (veh/h)		375	-	134	163	-	-	
HCM Lane V/C Ratio		0.206	-	0.622	0.498	-	-	
HCM Control Delay (s	6)	17.1	-	68.3	47.2	-	-	
HCM Lane LOS		С	-	F	E	-	-	
HCM 95th %tile Q(vel	n)	0.8	-	3.3	2.4	-	-	
Notes								
~: Volume exceeds ca	apacity	\$: De	elay exc	eeds 30)0s	+: Comp	outation Not Defined	*: All major volume in platoon

Int Delay, s/veh	0.4						
Movement	EBL	EBR	NBL	NBT	SBT	SBR	ł
Lane Configurations	7	1	7	1	ţ,		
Traffic Vol, veh/h	5	21	6	600	1455	10)
Future Vol, veh/h	5	21	6	600	1455	10)
Conflicting Peds, #/hr	0	0	0	0	0	0)
Sign Control	Stop	Stop	Free	Free	Free	Free	;
RT Channelized	-	None	-	None	-	None	;
Storage Length	0	25	0	-	-	-	-
Veh in Median Storage,	# 1	-	-	0	0	-	-
Grade, %	0	-	-	0	0	-	-
Peak Hour Factor	96	96	96	96	96	96	5
Heavy Vehicles, %	0	0	0	3	3	0)
Mvmt Flow	5	22	6	625	1516	10)

Major/Minor	Minor2	1	Major1	Мај	or2	
Conflicting Flow All	2158	1521	1526	0	-	0
Stage 1	1521	-	-	-	-	-
Stage 2	637	-	-	-	-	-
Critical Hdwy	6.4	6.2	4.1	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	53	147	443	-	-	-
Stage 1	201	-	-	-	-	-
Stage 2	531	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuve		147	443	-	-	-
Mov Cap-2 Maneuve	r 150	-	-	-	-	-
Stage 1	198	-	-	-	-	-
Stage 2	531	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	33	0.1	0
HCM LOS	D		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR	
Capacity (veh/h)	443	-	150	147	-	-	
HCM Lane V/C Ratio	0.014	-	0.035	0.149	-	-	
HCM Control Delay (s)	13.2	-	29.9	33.7	-	-	
HCM Lane LOS	В	-	D	D	-	-	
HCM 95th %tile Q(veh)	0	-	0.1	0.5	-	-	

Int Delay, s/veh	5.7						
Movement	EBL	EBR	NBL	NBT	SBT	SBR	
Lane Configurations	٦	1	٦	1	1	1	
Traffic Vol, veh/h	56	103	58	579	1103	79	
Future Vol, veh/h	56	103	58	579	1103	79	
Conflicting Peds, #/hr	0	0	0	0	0	0	
Sign Control	Stop	Stop	Free	Free	Free	Free	
RT Channelized	-	None	-	None	-	None	
Storage Length	0	25	100	-	-	75	
Veh in Median Storage,	# 0	-	-	0	0	-	
Grade, %	0	-	-	0	0	-	
Peak Hour Factor	98	98	98	98	98	98	
Heavy Vehicles, %	0	0	0	0	0	0	
Mvmt Flow	57	105	59	591	1126	81	

Major/Minor	Minor2	ľ	Major1	Majo	or2		
Conflicting Flow All	1835	1126	1207	0	-	0	
Stage 1	1126	-	-	-	-	-	
Stage 2	709	-	-	-	-	-	
Critical Hdwy	6.4	6.2	4.1	-	-	-	
Critical Hdwy Stg 1	5.4	-	-	-	-	-	
Critical Hdwy Stg 2	5.4	-	-	-	-	-	
Follow-up Hdwy	3.5	3.3	2.2	-	-	-	
Pot Cap-1 Maneuver	84	252	585	-	-	-	
Stage 1	313	-	-	-	-	-	
Stage 2	491	-	-	-	-	-	
Platoon blocked, %				-	-	-	
Mov Cap-1 Maneuve		252	585	-	-	-	
Mov Cap-2 Maneuve	r 76	-	-	-	-	-	
Stage 1	281	-	-	-	-	-	
Stage 2	491	-	-	-	-	-	

Approach	EB	NB	SB
HCM Control Delay, s	66.4	1.1	0
HCM LOS	F		

Minor Lane/Major Mvmt	NBL	NBT EBLn1	EBLn2	SBT	SBR	
Capacity (veh/h)	585	- 76	252	-	-	
HCM Lane V/C Ratio	0.101	- 0.752	0.417	-	-	
HCM Control Delay (s)	11.8	- 134.9	29.1	-	-	
HCM Lane LOS	В	- F	D	-	-	
HCM 95th %tile Q(veh)	0.3	- 3.6	1.9	-	-	

Int Delay, s/veh	3.4						
Movement	EBL	EBR	NBL	NBT	SBT	SBR	
Lane Configurations	٦	1	٦	1	1	1	
Traffic Vol, veh/h	93	99	90	535	946	283	i
Future Vol, veh/h	93	99	90	535	946	283	
Conflicting Peds, #/hr	0	0	0	0	0	0	
Sign Control	Stop	Stop	Free	Free	Free	Free	
RT Channelized	-	None	-	None	-	None	
Storage Length	0	25	250	-	-	75	,
Veh in Median Storage,	# 1	-	-	0	0	-	
Grade, %	0	-	-	0	0	-	
Peak Hour Factor	96	96	96	96	96	96	
Heavy Vehicles, %	0	0	0	0	0	0	
Mvmt Flow	97	103	94	557	985	295	

Major/Minor	Minor2	Ν	Major1	Мајс	or2	
Conflicting Flow All	1730	985	1280	0	-	0
Stage 1	985	-	-	-	-	-
Stage 2	745	-	-	-	-	-
Critical Hdwy	6.4	6.2	4.1	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	98	304	549	-	-	-
Stage 1	365	-	-	-	-	-
Stage 2	473	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuve	r ~81	304	549	-	-	-
Mov Cap-2 Maneuve	r 203	-	-	-	-	-
Stage 1	303	-	-	-	-	-
Stage 2	473	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	30.1	1.9	0
HCM LOS	D		

Minor Lane/Major Mvmt	NBL	NBT E	BLn1	EBLn2	SBT	SBR			
Capacity (veh/h)	549	-	203	304	-	-			
HCM Lane V/C Ratio	0.171	-	0.477	0.339	-	-			
HCM Control Delay (s)	12.9	-	37.9	22.8	-	-			
HCM Lane LOS	В	-	Е	С	-	-			
HCM 95th %tile Q(veh)	0.6	-	2.3	1.5	-	-			
Notes									
~: Volume exceeds capacity	\$: De	lay exce	eds 3	00s +	-: Comp	outation N	lot Defined	*: All major volume in platoon	

Int Delay, s/veh	0.2						
Movement	EBL	EBR	NBL	NBT	SBT	SBR	
Lane Configurations	7	1	٦	1	ţ,		
Traffic Vol, veh/h	4	10	9	620	1220	3	5
Future Vol, veh/h	4	10	9	620	1220	3	5
Conflicting Peds, #/hr	0	0	0	0	0	0)
Sign Control	Stop	Stop	Free	Free	Free	Free	;
RT Channelized	-	None	-	None	-	None	ł
Storage Length	0	25	0	-	-	-	
Veh in Median Storage,	# 1	-	-	0	0	-	
Grade, %	0	-	-	0	0	-	
Peak Hour Factor	98	98	98	98	98	98	5
Heavy Vehicles, %	0	0	0	0	0	0	
Mvmt Flow	4	10	9	633	1245	3	5

Major/Minor	Minor2	ľ	Major1	Majo	or2	
Conflicting Flow All	1898	1247	1248	0	-	0
Stage 1	1247	-	-	-	-	-
Stage 2	651	-	-	-	-	-
Critical Hdwy	6.4	6.2	4.1	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	77	214	565	-	-	-
Stage 1	273	-	-	-	-	-
Stage 2	523	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuve	r 76	214	565	-	-	-
Mov Cap-2 Maneuve	r 192	-	-	-	-	-
Stage 1	269	-	-	-	-	-
Stage 2	523	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	23.1	0.2	0
HCM LOS	С		

Minor Lane/Major Mvmt	NBL	NBT EBLn1	EBLn2	SBT	SBR	
Capacity (veh/h)	565	- 192	214	-	-	
HCM Lane V/C Ratio	0.016	- 0.021	0.048	-	-	
HCM Control Delay (s)	11.5	- 24.2	22.7	-	-	
HCM Lane LOS	В	- C	С	-	-	
HCM 95th %tile Q(veh)	0.1	- 0.1	0.1	-	-	

Int Delay, s/veh	5.3					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	5	1	5	1	1	1
Traffic Vol, veh/h	48	69	34	545	1149	52
Future Vol, veh/h	48	69	34	545	1149	52
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	25	100	-	-	75
Veh in Median Storage,	# 0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	91	91	91	91	91	91
Heavy Vehicles, %	2	0	0	2	2	4
Mvmt Flow	53	76	37	599	1263	57

Major/Minor	Minor2	1	Major1	Maj	or2		
Conflicting Flow All	1936	1263	1320	0	-	0	
Stage 1	1263	-	-	-	-	-	
Stage 2	673	-	-	-	-	-	
Critical Hdwy	6.42	6.2	4.1	-	-	-	
Critical Hdwy Stg 1	5.42	-	-	-	-	-	
Critical Hdwy Stg 2	5.42	-	-	-	-	-	
Follow-up Hdwy	3.518	3.3	2.2	-	-	-	
Pot Cap-1 Maneuver	72	209	530	-	-	-	
Stage 1	266	-	-	-	-	-	
Stage 2	507	-	-	-	-	-	
Platoon blocked, %				-	-	-	
Mov Cap-1 Maneuver	· 67	209	530	-	-	-	
Mov Cap-2 Maneuver	· 67	-	-	-	-	-	
Stage 1	247	-	-	-	-	-	
Stage 2	507	-	-	-	-	-	

Approach	EB	NB	SB
HCM Control Delay, s	83.1	0.7	0
HCM LOS	F		

Minor Lane/Major Mvmt	NBL	NBT EBLn1	EBLn2	SBT	SBR	
Capacity (veh/h)	530	- 67	209	-	-	
HCM Lane V/C Ratio	0.07	- 0.787	0.363	-	-	
HCM Control Delay (s)	12.3	- 156.9	31.7	-	-	
HCM Lane LOS	В	- F	D	-	-	
HCM 95th %tile Q(veh)	0.2	- 3.6	1.6	-	-	

Int Delay, s/veh	3.2					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	٦	1	٢	1	1	1
Traffic Vol, veh/h	71	66	61	428	1223	204
Future Vol, veh/h	71	66	61	428	1223	204
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	25	250	-	-	75
Veh in Median Storage	, # 1	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	93	93	93	93	93	93
Heavy Vehicles, %	4	4	4	1	2	4
Mvmt Flow	76	71	66	460	1315	219

Major/Minor	Minor2	1	Major1	ſ	Major2			
Conflicting Flow All	1907	1315	1534	0	-	0		
Stage 1	1315	-	-	-	-	-		
Stage 2	592	-	-	-	-	-		
Critical Hdwy	6.44	6.24	4.14	-	-	-		
Critical Hdwy Stg 1	5.44	-	-	-	-	-		
Critical Hdwy Stg 2	5.44	-	-	-	-	-		
Follow-up Hdwy		3.336		-	-	-		
Pot Cap-1 Maneuver	~ 74	191	428	-	-	-		
Stage 1	249	-	-	-	-	-		
Stage 2	549	-	-	-	-	-		
Platoon blocked, %				-	-	-		
Mov Cap-1 Maneuver		191	428	-	-	-		
Mov Cap-2 Maneuver		-	-	-	-	-		
Stage 1	211	-	-	-	-	-		
Stage 2	549	-	-	-	-	-		
Approach	EB		NB		SB			
HCM Control Delay, s	40.5		1.9		0			
HCM LOS	Е							
Minor Lane/Major Mv	mt	NBL	NBT E	EBLn1 I	EBLn2	SBT	SBR	
Capacity (veh/h)		428	-	161	191	-	-	
HCM Lane V/C Ratio		0.153	-	0.474	0.372	-	-	
HCM Control Delay (s	5)	14.9	-	46	34.6	-	-	
HCM Lane LOS)	В	-	E	D	-	-	
HCM 95th %tile Q(vel	h)	0.5	-	2.2	1.6	-	-	
Notes								
~: Volume exceeds ca	apacity	\$: De	elay exc	eeds 30	00s	+: Com	outation Not Defined	*: All major volume in platoon

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Int Delay, s/veh	0.6						
Movement	EBL	EBR	NBL	NBT	SBT	SBR	(
Lane Configurations	7	1	٦	1	¢Î,		
Traffic Vol, veh/h	7	27	7	544	1255	13	
Future Vol, veh/h	7	27	7	544	1255	13	i i
Conflicting Peds, #/hr	0	0	0	0	0	0	
Sign Control	Stop	Stop	Free	Free	Free	Free	,
RT Channelized	-	None	-	None	-	None	ļ
Storage Length	0	25	0	-	-	-	
Veh in Median Storage	, # 1	-	-	0	0	-	
Grade, %	0	-	-	0	0	-	
Peak Hour Factor	92	92	92	92	92	92	
Heavy Vehicles, %	0	0	0	3	3	0)
Mvmt Flow	8	29	8	591	1364	14	

Major/Minor	Minor2	1	Major1	Ма	ijor2	
Conflicting Flow All	1978	1371	1378	0	-	0
Stage 1	1371	-	-	-	-	-
Stage 2	607	-	-	-	-	-
Critical Hdwy	6.4	6.2	4.1	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	69	181	504	-	-	-
Stage 1	238	-	-	-	-	-
Stage 2	548	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	⁻ 68	181	504	-	-	-
Mov Cap-2 Maneuver	· 175	-	-	-	-	-
Stage 1	234	-	-	-	-	-
Stage 2	548	-	-	-	-	-
Approach	ED		ND		СD	

Approach	EB	NB	SB	
HCM Control Delay, s	28.2	0.2	0	
HCM LOS	D			

Minor Lane/Major Mvmt	NBL	NBT E	BLn1 I	EBLn2	SBT	SBR	
Capacity (veh/h)	504	-	175	181	-	-	
HCM Lane V/C Ratio	0.015	- (0.043	0.162	-	-	
HCM Control Delay (s)	12.3	-	26.5	28.7	-	-	
HCM Lane LOS	В	-	D	D	-	-	
HCM 95th %tile Q(veh)	0	-	0.1	0.6	-	-	

Int Delay, s/veh	2.9						
Movement	EBL	EBR	NBL	NBT	SBT	SBR	
Lane Configurations	7	1	٦	1	1	1	
Traffic Vol, veh/h	47	67	38	532	1020	59	
Future Vol, veh/h	47	67	38	532	1020	59	
Conflicting Peds, #/hr	0	0	0	0	0	0	
Sign Control	Stop	Stop	Free	Free	Free	Free	
RT Channelized	-	None	-	None	-	None	
Storage Length	0	25	100	-	-	75	
Veh in Median Storage,	# 0	-	-	0	0	-	
Grade, %	0	-	-	0	0	-	
Peak Hour Factor	98	98	98	98	98	98	
Heavy Vehicles, %	0	0	0	0	0	0	
Mvmt Flow	48	68	39	543	1041	60	

Major/Minor	Minor2	1	Major1	Ma	jor2		
Conflicting Flow All	1662	1041	1101	0	-	0	
Stage 1	1041	-	-	-	-	-	
Stage 2	621	-	-	-	-	-	
Critical Hdwy	6.4	6.2	4.1	-	-	-	
Critical Hdwy Stg 1	5.4	-	-	-	-	-	
Critical Hdwy Stg 2	5.4	-	-	-	-	-	
Follow-up Hdwy	3.5	3.3	2.2	-	-	-	
Pot Cap-1 Maneuver	108	282	642	-	-	-	
Stage 1	343	-	-	-	-	-	
Stage 2	540	-	-	-	-	-	
Platoon blocked, %				-	-	-	
Mov Cap-1 Maneuver		282	642	-	-	-	
Mov Cap-2 Maneuver	r 101	-	-	-	-	-	
Stage 1	322	-	-	-	-	-	
Stage 2	540	-	-	-	-	-	
•					~-		

Approach	EB	NB	SB
HCM Control Delay, s	41.4	0.7	0
HCM LOS	Е		

Minor Lane/Major Mvmt	NBL	NBT EBLn	1 EBLn2	SBT	SBR	
Capacity (veh/h)	642	- 10	1 282	-	-	
HCM Lane V/C Ratio	0.06	- 0.47	5 0.242	-	-	
HCM Control Delay (s)	11	- 69.	4 21.8	-	-	
HCM Lane LOS	В	-	F C	-	-	
HCM 95th %tile Q(veh)	0.2	- 2.	1 0.9	-	-	

Int Delay, s/veh	2.6					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	7	1	٦	1	1	1
Traffic Vol, veh/h	80	86	73	482	856	243
Future Vol, veh/h	80	86	73	482	856	243
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	25	250	-	-	75
Veh in Median Storage	, # 1	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	84	91	77	507	901	256

Major/Minor	Minor2	N	Major1	Maj	or2		
Conflicting Flow All	1562	901	1157	0	-	0	
Stage 1	901	-	-	-	-	-	
Stage 2	661	-	-	-	-	-	
Critical Hdwy	6.4	6.2	4.1	-	-	-	
Critical Hdwy Stg 1	5.4	-	-	-	-	-	
Critical Hdwy Stg 2	5.4	-	-	-	-	-	
Follow-up Hdwy	3.5	3.3	2.2	-	-	-	
Pot Cap-1 Maneuver	124	340	611	-	-	-	
Stage 1	400	-	-	-	-	-	
Stage 2	517	-	-	-	-	-	
Platoon blocked, %				-	-	-	
Mov Cap-1 Maneuver	108	340	611	-	-	-	
Mov Cap-2 Maneuver	237	-	-	-	-	-	
Stage 1	350	-	-	-	-	-	
Stage 2	517	-	-	-	-	-	

Approach	EB	NB	SB
HCM Control Delay, s	23.7	1.5	0
HCM LOS	С		

Minor Lane/Major Mvmt	NBL	NBT EBLn	1 EBLn2	SBT	SBR	
Capacity (veh/h)	611	- 23	7 340	-	-	
HCM Lane V/C Ratio	0.126	- 0.35	5 0.266	-	-	
HCM Control Delay (s)	11.7	- 28.	3 19.4	-	-	
HCM Lane LOS	В	-) C	-	-	
HCM 95th %tile Q(veh)	0.4	- 1.	5 1.1	-	-	

Int Delay, s/veh	0.3						
Movement	EBL	EBR	NBL	NBT	SBT	SBR	
Lane Configurations	7	1	7	1	ţ,		
Traffic Vol, veh/h	7	16	13	553	1085	5	
Future Vol, veh/h	7	16	13	553	1085	5	
Conflicting Peds, #/hr	0	0	0	0	0	0	
Sign Control	Stop	Stop	Free	Free	Free	Free	
RT Channelized	-	None	-	None	-	None	
Storage Length	0	25	0	-	-	-	
Veh in Median Storage,	# 1	-	-	0	0	-	
Grade, %	0	-	-	0	0	-	
Peak Hour Factor	98	98	98	98	98	98	
Heavy Vehicles, %	0	0	0	0	0	0	
Mvmt Flow	7	16	13	564	1107	5	

Major/Minor	Minor2	1	Major1	Ma	jor2	
Conflicting Flow All	1700	1110	1112	0	-	0
Stage 1	1110	-	-	-	-	-
Stage 2	590	-	-	-	-	-
Critical Hdwy	6.4	6.2	4.1	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	102	257	635	-	-	-
Stage 1	318	-	-	-	-	-
Stage 2	558	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	r 100	257	635	-	-	-
Mov Cap-2 Maneuver	r 224	-	-	-	-	-
Stage 1	312	-	-	-	-	-
Stage 2	558	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	20.5	0.2	0
HCM LOS	С		

Minor Lane/Major Mvmt	NBL	NBT EBLn	I EBLn2	SBT	SBR	
Capacity (veh/h)	635	- 224	4 257	-	-	
HCM Lane V/C Ratio	0.021	- 0.032	2 0.064	-	-	
HCM Control Delay (s)	10.8	- 21.	5 20	-	-	
HCM Lane LOS	В	- (С С	-	-	
HCM 95th %tile Q(veh)	0.1	- 0.1	1 0.2	-	-	

Int Delay, s/veh	6.9					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	٦	1	٦	1	1	1
Traffic Vol, veh/h	50	88	36	559	1180	54
Future Vol, veh/h	50	88	36	559	1180	54
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	25	100	-	-	75
Veh in Median Storage	,# 0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	91	91	91	91	91	91
Heavy Vehicles, %	2	0	0	2	2	4
Mvmt Flow	55	97	40	614	1297	59

Major/Minor	Minor2	1	Major1	Ma	jor2	
Conflicting Flow All	1991	1297	1356	0	-	0
Stage 1	1297	-	-	-	-	-
Stage 2	694	-	-	-	-	-
Critical Hdwy	6.42	6.2	4.1	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	67	200	514	-	-	-
Stage 1	256	-	-	-	-	-
Stage 2	496	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	· 62	200	514	-	-	-
Mov Cap-2 Maneuver	· 62	-	-	-	-	-
Stage 1	236	-	-	-	-	-
Stage 2	496	-	-	-	-	-
Approach	ED		ND		СD	

Approach	EB	NB	SB	
HCM Control Delay, s	94.2	0.8	0	
HCMLOS	F			

Minor Lane/Major Mvmt	NBL	NBT EBLn1	EBLn2	SBT	SBR	
Capacity (veh/h)	514	- 62	200	-	-	
HCM Lane V/C Ratio	0.077	- 0.886	0.484	-	-	
HCM Control Delay (s)	12.6	- 191.8	38.8	-	-	
HCM Lane LOS	В	- F	Е	-	-	
HCM 95th %tile Q(veh)	0.2	- 4.1	2.4	-	-	

Int Delay, s/veh	3.6					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	٦	1	٢	1	1	1
Traffic Vol, veh/h	73	69	66	438	1268	216
Future Vol, veh/h	73	69	66	438	1268	216
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	25	250	-	-	75
Veh in Median Storage,	, # 1	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	93	93	93	93	93	93
Heavy Vehicles, %	4	4	4	1	2	4
Mvmt Flow	78	74	71	471	1363	232

Major/Minor	Minor2	1	Major1	ľ	Major2			
Conflicting Flow All	1976	1363	1595	0	-	0		
Stage 1	1363	-	-	-	-	-		
Stage 2	613	-	-	-	-	-		
Critical Hdwy	6.44	6.24	4.14	-	-	-		
Critical Hdwy Stg 1	5.44	-	-	-	-	-		
Critical Hdwy Stg 2	5.44	-	-	-	-	-		
Follow-up Hdwy			2.236	-	-	-		
Pot Cap-1 Maneuver	~ 67	179	405	-	-	-		
Stage 1	236	-	-	-	-	-		
Stage 2	537	-	-	-	-	-		
Platoon blocked, %				-	-	-		
Mov Cap-1 Maneuver		179	405	-	-	-		
Mov Cap-2 Maneuver		-	-	-	-	-		
Stage 1	195	-	-	-	-	-		
Stage 2	537	-	-	-	-	-		
Approach	EB		NB		SB			
HCM Control Delay, s	6 46.2		2.1		0			
HCM LOS	E							
Minor Lane/Major Mv	mt	NBL	NBT I	EBLn1 E	EBLn2	SBT	SBR	
Capacity (veh/h)		405	-	149	179	-	-	
HCM Lane V/C Ratio		0.175	-	0.527	0.414	-	-	
HCM Control Delay (s	s)	15.8	-	53.3	38.7	-	-	
HCM Lane LOS	,	С	-	F	Е	-	-	
HCM 95th %tile Q(ve	h)	0.6	-	2.6	1.9	-	-	
Notes								
~: Volume exceeds c	apacity	\$: De	elay exc	eeds 30)0s ·	+: Comp	outation Not Defined	*: All major volume in platoon

Int Delay, s/veh	0.6						
Movement	EBL	EBR	NBL	NBT	SBT	SBR	ł
Lane Configurations	٦	1	7	1	t,		
Traffic Vol, veh/h	7	27	7	560	1315	13	;
Future Vol, veh/h	7	27	7	560	1315	13	;
Conflicting Peds, #/hr	0	0	0	0	0	0)
Sign Control	Stop	Stop	Free	Free	Free	Free	;
RT Channelized	-	None	-	None	-	None	ļ
Storage Length	0	25	0	-	-	-	
Veh in Median Storage	, # 1	-	-	0	0	-	
Grade, %	0	-	-	0	0	-	
Peak Hour Factor	92	92	92	92	92	92)
Heavy Vehicles, %	0	0	0	3	3	0)
Mvmt Flow	8	29	8	609	1429	14	ŀ

Minor2	N	Major1	Majo	or2	
2061	1436	1443	0	-	0
1436	-	-	-	-	-
625	-	-	-	-	-
6.4	6.2	4.1	-	-	-
5.4	-	-	-	-	-
5.4	-	-	-	-	-
3.5	3.3	2.2	-	-	-
61	165	476	-	-	-
221	-	-	-	-	-
537	-	-	-	-	-
			-	-	-
r 60	165	476	-	-	-
r 163	-	-	-	-	-
217	-	-	-	-	-
537	-	-	-	-	-
r	2061 1436 625 6.4 5.4 3.5 61 221 537 r 60 r 163 217	2061 1436 1436 - 625 - 6.4 6.2 5.4 - 5.5 3.3 61 165 221 - 537 - r 60 165 r 163 - 217 - -	2061 1436 1443 1436 - - 625 - - 6.4 6.2 4.1 5.4 - - 5.4 - - 3.5 3.3 2.2 61 165 476 221 - - 537 - - r 60 165 476 r 163 - - 217 - - -	$\begin{array}{cccccccccccccccccccccccccccccccccccc$	$\begin{array}{cccccccccccccccccccccccccccccccccccc$

Approach	EB	NB	SB
HCM Control Delay, s	30.8	0.2	0
HCM LOS	D		

Minor Lane/Major Mvmt	NBL	NBT EBLn ²	I EBLn2	SBT	SBR	
Capacity (veh/h)	476	- 163	3 165	-	-	
HCM Lane V/C Ratio	0.016	- 0.04	7 0.178	-	-	
HCM Control Delay (s)	12.7	- 28.2	2 31.5	-	-	
HCM Lane LOS	В	- [) D	-	-	
HCM 95th %tile Q(veh)	0	- 0.1	0.6	-	-	

Int Delay, s/veh	3.6						
Movement	EBL	EBR	NBL	NBT	SBT	SBR	
Lane Configurations	7	1	7	1	1	1	
Traffic Vol, veh/h	50	82	44	547	1045	65	
Future Vol, veh/h	50	82	44	547	1045	65	
Conflicting Peds, #/hr	0	0	0	0	0	0	
Sign Control	Stop	Stop	Free	Free	Free	Free	
RT Channelized	-	None	-	None	-	None	
Storage Length	0	25	100	-	-	75	,
Veh in Median Storage,	# 0	-	-	0	0	-	
Grade, %	0	-	-	0	0	-	
Peak Hour Factor	98	98	98	98	98	98	
Heavy Vehicles, %	0	0	0	0	0	0	
Mvmt Flow	51	84	45	558	1066	66	i

Major/Minor	Minor2	ľ	Major1	Maj	or2		·
Conflicting Flow All	1714	1066	1132	0	-	0	
Stage 1	1066	-	-	-	-	-	
Stage 2	648	-	-	-	-	-	
Critical Hdwy	6.4	6.2	4.1	-	-	-	
Critical Hdwy Stg 1	5.4	-	-	-	-	-	
Critical Hdwy Stg 2	5.4	-	-	-	-	-	
Follow-up Hdwy	3.5	3.3	2.2	-	-	-	
Pot Cap-1 Maneuver	100	273	625	-	-	-	
Stage 1	334	-	-	-	-	-	
Stage 2	524	-	-	-	-	-	
Platoon blocked, %				-	-	-	
Mov Cap-1 Maneuve	r 93	273	625	-	-	-	
Mov Cap-2 Maneuve	r 93	-	-	-	-	-	
Stage 1	310	-	-	-	-	-	
Stage 2	524	-	-	-	-	-	

Approach	EB	NB	SB
HCM Control Delay, s	46.3	0.8	0
HCM LOS	Е		

Minor Lane/Major Mvmt	NBL	NBT EBL	n1 EBLn2	SBT	SBR
Capacity (veh/h)	625	-	93 273	-	-
HCM Lane V/C Ratio	0.072	- 0.5	49 0.306	-	-
HCM Control Delay (s)	11.2	- 83	3.1 23.9	-	-
HCM Lane LOS	В	-	F C	-	-
HCM 95th %tile Q(veh)	0.2	- 2	2.5 1.3	-	-

Int Delay, s/veh	2.8						
Movement	EBL	EBR	NBL	NBT	SBT	SBR	
Lane Configurations	٦	1	٢	1	1	1	
Traffic Vol, veh/h	84	90	78	498	884	255	j
Future Vol, veh/h	84	90	78	498	884	255	;
Conflicting Peds, #/hr	0	0	0	0	0	0)
Sign Control	Stop	Stop	Free	Free	Free	Free)
RT Channelized	-	None	-	None	-	None	
Storage Length	0	25	250	-	-	75	;
Veh in Median Storage,	# 1	-	-	0	0	-	•
Grade, %	0	-	-	0	0	-	
Peak Hour Factor	95	95	95	95	95	95	j
Heavy Vehicles, %	0	0	0	0	0	0	
Mvmt Flow	88	95	82	524	931	268	}

Minor2	Ν	Major1	Majo	or2			
1619	931	1199	0	-	0		
931	-	-	-	-	-		
688	-	-	-	-	-		
6.4	6.2	4.1	-	-	-		
5.4	-	-	-	-	-		
5.4	-	-	-	-	-		
3.5	3.3	2.2	-	-	-		
115	326	589	-	-	-		
387	-	-	-	-	-		
503	-	-	-	-	-		
			-	-	-		
r 99	326	589	-	-	-		
r 226	-	-	-	-	-		
333	-	-	-	-	-		
503	-	-	-	-	-		
	1619 931 688 6.4 5.4 3.5 115 387 503 r 99 r 226 333	1619 931 931 - 688 - 6.4 6.2 5.4 - 3.5 3.3 115 326 387 - 503 - 99 326 7 29 326 333 -	1619 931 1199 931 - - 688 - - 6.4 6.2 4.1 5.4 - - 5.4 - - 3.5 3.3 2.2 115 326 589 387 - - 503 - - 99 326 589 326 - - 333 - -	$\begin{array}{cccccccccccccccccccccccccccccccccccc$	$\begin{array}{cccccccccccccccccccccccccccccccccccc$	$\begin{array}{cccccccccccccccccccccccccccccccccccc$	$\begin{array}{cccccccccccccccccccccccccccccccccccc$

Approach	EB	NB	SB
HCM Control Delay, s	25.5	1.6	0
HCM LOS	D		

Minor Lane/Major Mvmt	NBL	NBT EB	BLn1 E	EBLn2	SBT	SBR	
Capacity (veh/h)	589	-	226	326	-	-	
HCM Lane V/C Ratio	0.139	- 0.	.391	0.291	-	-	
HCM Control Delay (s)	12.1	- ;	30.8	20.5	-	-	
HCM Lane LOS	В	-	D	С	-	-	
HCM 95th %tile Q(veh)	0.5	-	1.8	1.2	-	-	

Int Delay, s/veh	0.4						
Movement	EBL	EBR	NBL	NBT	SBT	SBR	l
Lane Configurations	7	1	7	1	t,		
Traffic Vol, veh/h	7	16	13	575	1125	5	5
Future Vol, veh/h	7	16	13	575	1125	5	5
Conflicting Peds, #/hr	0	0	0	0	0	0)
Sign Control	Stop	Stop	Free	Free	Free	Free	;
RT Channelized	-	None	-	None	-	None)
Storage Length	0	25	0	-	-	-	-
Veh in Median Storage,	# 1	-	-	0	0	-	-
Grade, %	0	-	-	0	0	-	•
Peak Hour Factor	98	98	98	98	98	98	}
Heavy Vehicles, %	0	0	0	0	0	0)
Mvmt Flow	7	16	13	587	1148	5	5

Major/Minor	Minor2	1	Major1	Ma	jor2	
Conflicting Flow All	1764	1151	1153	0	-	0
Stage 1	1151	-	-	-	-	-
Stage 2	613	-	-	-	-	-
Critical Hdwy	6.4	6.2	4.1	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	93	243	613	-	-	-
Stage 1	304	-	-	-	-	-
Stage 2	544	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	· 91	243	613	-	-	-
Mov Cap-2 Maneuver	· 213	-	-	-	-	-
Stage 1	298	-	-	-	-	-
Stage 2	544	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	21.4	0.2	0
HCM LOS	С		

Minor Lane/Major Mvmt	NBL	NBT EBLn1	EBLn2	SBT	SBR	
Capacity (veh/h)	613	- 213	243	-	-	
HCM Lane V/C Ratio	0.022	- 0.034	0.067	-	-	
HCM Control Delay (s)	11	- 22.5	20.9	-	-	
HCM Lane LOS	В	- C	С	-	-	
HCM 95th %tile Q(veh)	0.1	- 0.1	0.2	-	-	

Int Delay, s/veh 9.6 Movement EBL EBR NBL NBT SBT SBR Lane Configurations ٦ 1 ٦ ŧ ŧ ۲ 53 592 Traffic Vol, veh/h 134 39 1254 57 Future Vol, veh/h 53 134 39 592 1254 57 Conflicting Peds, #/hr 0 0 0 0 0 0 Sign Control Stop Stop Free Free Free Free RT Channelized None -None -None -Storage Length 0 25 100 75 --Veh in Median Storage, # 0 -0 0 --Grade, % 0 0 0 ---Peak Hour Factor 95 95 95 95 95 95 Heavy Vehicles, % 2 0 0 2 2 4 Mvmt Flow 56 141 41 623 1320 60

Major/Minor	Minor2	ſ	Major1	Ma	jor2		
Conflicting Flow All	2025	1320	1380	0	-	0	
Stage 1	1320	-	-	-	-	-	
Stage 2	705	-	-	-	-	-	
Critical Hdwy	6.42	6.2	4.1	-	-	-	
Critical Hdwy Stg 1	5.42	-	-	-	-	-	
Critical Hdwy Stg 2	5.42	-	-	-	-	-	
Follow-up Hdwy	3.518	3.3	2.2	-	-	-	
Pot Cap-1 Maneuver	63	194	503	-	-	-	
Stage 1	250	-	-	-	-	-	
Stage 2	490	-	-	-	-	-	
Platoon blocked, %				-	-	-	
Mov Cap-1 Maneuver	58	194	503	-	-	-	
Mov Cap-2 Maneuver	58	-	-	-	-	-	
Stage 1	230	-	-	-	-	-	
Stage 2	490	-	-	-	-	-	
Approach	EB		NB		SB		

Approach	EB	NB	SB	
HCM Control Delay, s	107.1	0.8	0	
HCM LOS	F			

Minor Lane/Major Mvmt	NBL	NBT EBLn1	EBLn2	SBT	SBR	
Capacity (veh/h)	503	- 58	194	-	-	
HCM Lane V/C Ratio	0.082	- 0.962	0.727	-	-	
HCM Control Delay (s)	12.8	- 222.6	61.4	-	-	
HCM Lane LOS	В	- F	F	-	-	
HCM 95th %tile Q(veh)	0.3	- 4.4	4.7	-	-	

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Int Delay, s/veh	4.6					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	7	1	٢	1	1	1
Traffic Vol, veh/h	80	78	74	463	1378	244
Future Vol, veh/h	80	78	74	463	1378	244
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	25	250	-	-	75
Veh in Median Storage,	, # 1	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	96	96	96	96	96	96
Heavy Vehicles, %	4	4	4	1	2	4
Mvmt Flow	83	81	77	482	1435	254

Major/Minor	Minor2	I	Major1	1	Major2			
Conflicting Flow All	2071	1435	1689	0	-	0		
Stage 1	1435	-	-	-	-	-		
Stage 2	636	-	-	-	-	-		
Critical Hdwy	6.44	6.24	4.14	-	-	-		
Critical Hdwy Stg 1	5.44	-	-	-	-	-		
Critical Hdwy Stg 2	5.44	-	-	-	-	-		
Follow-up Hdwy	3.536	3.336	2.236	-	-	-		
Pot Cap-1 Maneuver	~ 59	162	373	-	-	-		
Stage 1	217	-	-	-	-	-		
Stage 2	524	-	-	-	-	-		
Platoon blocked, %				-	-	-		
Mov Cap-1 Maneuver	~ 47	162	373	-	-	-		
Mov Cap-2 Maneuver		-	-	-	-	-		
Stage 1	172	-	-	-	-	-		
Stage 2	524	-	-	-	-	-		
Approach	EB		NB		SB			
HCM Control Delay, s	58.6		2.4		0			
HCM LOS	F							
Minor Lane/Major Mvr	nt	NBL	NBT	EBLn1 I	EBLn2	SBT	SBR	
Capacity (veh/h)		373	-	133	162	-	-	
HCM Lane V/C Ratio		0.207	-		0.502	-	-	
HCM Control Delay (s)	17.1	-	69.3	47.7	-	-	
HCM Lane LOS		С	-	F	E	-	-	
HCM 95th %tile Q(veh	ו)	0.8	-	3.3	2.4	-	-	
Notes								
~: Volume exceeds ca	apacity	\$: De	elay exc	eeds 30)0s	+: Comp	outation Not Defined	*: All major volume in platoon

Int Delay, s/veh	0.6						
Movement	EBL	EBR	NBL	NBT	SBT	SBR	ł
Lane Configurations	7	1	7	1	4		
Traffic Vol, veh/h	7	27	7	600	1455	13	}
Future Vol, veh/h	7	27	7	600	1455	13	}
Conflicting Peds, #/hr	0	0	0	0	0	0)
Sign Control	Stop	Stop	Free	Free	Free	Free	;
RT Channelized	-	None	-	None	-	None	;
Storage Length	0	25	0	-	-	-	
Veh in Median Storage	, # 1	-	-	0	0	-	-
Grade, %	0	-	-	0	0	-	•
Peak Hour Factor	96	96	96	96	96	96	;
Heavy Vehicles, %	0	0	0	3	3	0)
Mvmt Flow	7	28	7	625	1516	14	ļ

Major/Minor	Minor2	N	Major1	Мај	or2					
Conflicting Flow All	2162	1523	1530	0	-	0				
Stage 1	1523	-	-	-	-	-				
Stage 2	639	-	-	-	-	-				
Critical Hdwy	6.4	6.2	4.1	-	-	-				
Critical Hdwy Stg 1	5.4	-	-	-	-	-				
Critical Hdwy Stg 2	5.4	-	-	-	-	-				
Follow-up Hdwy	3.5	3.3	2.2	-	-	-				
Pot Cap-1 Maneuver	53	147	441	-	-	-				
Stage 1	201	-	-	-	-	-				
Stage 2	530	-	-	-	-	-				
Platoon blocked, %				-	-	-				
Mov Cap-1 Maneuver	52	147	441	-	-	-				
Mov Cap-2 Maneuver	150	-	-	-	-	-				
Stage 1	198	-	-	-	-	-				
Stage 2	530	-	-	-	-	-				

Approach	EB	NB	SB
HCM Control Delay, s	34.2	0.2	0
HCM LOS	D		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	441	-	150	147	-	-
HCM Lane V/C Ratio	0.017	-	0.049	0.191	-	-
HCM Control Delay (s)	13.3	-	30.2	35.2	-	-
HCM Lane LOS	В	-	D	Е	-	-
HCM 95th %tile Q(veh)	0.1	-	0.2	0.7	-	-

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Int Delay, s/veh	5.7					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	٦	1	7	1	1	1
Traffic Vol, veh/h	56	103	58	582	1105	79
Future Vol, veh/h	56	103	58	582	1105	79
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	25	100	-	-	75
Veh in Median Storage,	# 0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	98	98	98	98	98	98
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	57	105	59	594	1128	81

Major/Minor	Minor2	<u> </u>	Major1	Maj	or2		
Conflicting Flow All	1840	1128	1209	0	-	0	
Stage 1	1128	-	-	-	-	-	
Stage 2	712	-	-	-	-	-	
Critical Hdwy	6.4	6.2	4.1	-	-	-	
Critical Hdwy Stg 1	5.4	-	-	-	-	-	
Critical Hdwy Stg 2	5.4	-	-	-	-	-	
Follow-up Hdwy	3.5	3.3	2.2	-	-	-	
Pot Cap-1 Maneuver	84	251	584	-	-	-	
Stage 1	312	-	-	-	-	-	
Stage 2	490	-	-	-	-	-	
Platoon blocked, %				-	-	-	
Mov Cap-1 Maneuve		251	584	-	-	-	
Mov Cap-2 Maneuve	r 76	-	-	-	-	-	
Stage 1	280	-	-	-	-	-	
Stage 2	490	-	-	-	-	-	

Approach	EB	NB	SB
HCM Control Delay, s	66.5	1.1	0
HCM LOS	F		

Minor Lane/Major Mvmt	NBL	NBT EBLn1	EBLn2	SBT	SBR	
Capacity (veh/h)	584	- 76	251	-	-	
HCM Lane V/C Ratio	0.101	- 0.752	0.419	-	-	
HCM Control Delay (s)	11.9	- 134.9	29.3	-	-	
HCM Lane LOS	В	- F	D	-	-	
HCM 95th %tile Q(veh)	0.3	- 3.6	2	-	-	

Int Delay, s/veh	3.5					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	7	1	7	1	1	1
Traffic Vol, veh/h	94	99	90	538	951	284
Future Vol, veh/h	94	99	90	538	951	284
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	25	250	-	-	75
Veh in Median Storage,	# 1	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	96	96	96	96	96	96
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	98	103	94	560	991	296

Major/Minor	Minor2	N	Major1	Majo	or2		
Conflicting Flow All	1739	991	1287	0	-	0	
Stage 1	991	-	-	-	-	-	
Stage 2	748	-	-	-	-	-	
Critical Hdwy	6.4	6.2	4.1	-	-	-	
Critical Hdwy Stg 1	5.4	-	-	-	-	-	
Critical Hdwy Stg 2	5.4	-	-	-	-	-	
Follow-up Hdwy	3.5	3.3	2.2	-	-	-	
Pot Cap-1 Maneuver	~ 97	301	546	-	-	-	
Stage 1	362	-	-	-	-	-	
Stage 2	471	-	-	-	-	-	
Platoon blocked, %				-	-	-	
Mov Cap-1 Maneuve	r ~ 80	301	546	-	-	-	
Mov Cap-2 Maneuve	r 202	-	-	-	-	-	
Stage 1	300	-	-	-	-	-	
Stage 2	471	-	-	-	-	-	

Approach	EB	NB	SB
HCM Control Delay, s	30.6	1.9	0
HCM LOS	D		

Minor Lane/Major Mvmt	NBL	NBT E	BLn1	EBLn2	SBT	SBR			
Capacity (veh/h)	546	-	202	301	-	-			
HCM Lane V/C Ratio	0.172	-	0.485	0.343	-	-			
HCM Control Delay (s)	13	-	38.5	23.1	-	-			
HCM Lane LOS	В	-	E	С	-	-			
HCM 95th %tile Q(veh)	0.6	-	2.4	1.5	-	-			
Notes									
~: Volume exceeds capacity	\$: De	lav exc	eeds 3	00s -	E: Comr	outation I	Not Defined	*: All major volume in platoon	

2030 Saturday PM Peak Hour with Project

Int Delay, s/veh	0.4						
Movement	EBL	EBR	NBL	NBT	SBT	SBR	2
Lane Configurations	٦	1	٦	1	ħ		
Traffic Vol, veh/h	7	16	13	620	1220	5	i
Future Vol, veh/h	7	16	13	620	1220	5	i
Conflicting Peds, #/hr	0	0	0	0	0	0)
Sign Control	Stop	Stop	Free	Free	Free	Free	:
RT Channelized	-	None	-	None	-	None	:
Storage Length	0	25	0	-	-	-	
Veh in Median Storage	, # 1	-	-	0	0	-	•
Grade, %	0	-	-	0	0	-	
Peak Hour Factor	98	98	98	98	98	98	6
Heavy Vehicles, %	0	0	0	0	0	0)
Mvmt Flow	7	16	13	633	1245	5	;

Major/Minor	Minor2	ſ	Major1	Maj	or2		
Conflicting Flow All	1907	1248	1250	0	-	0	
Stage 1	1248	-	-	-	-	-	
Stage 2	659	-	-	-	-	-	
Critical Hdwy	6.4	6.2	4.1	-	-	-	
Critical Hdwy Stg 1	5.4	-	-	-	-	-	
Critical Hdwy Stg 2	5.4	-	-	-	-	-	
Follow-up Hdwy	3.5	3.3	2.2	-	-	-	
Pot Cap-1 Maneuver	76	213	564	-	-	-	
Stage 1	273	-	-	-	-	-	
Stage 2	518	-	-	-	-	-	
Platoon blocked, %				-	-	-	
Mov Cap-1 Maneuve	r 74	213	564	-	-	-	
Mov Cap-2 Maneuve	r 190	-	-	-	-	-	
Stage 1	267	-	-	-	-	-	
Stage 2	518	-	-	-	-	-	

Approach	EB	NB	SB
HCM Control Delay, s	23.7	0.2	0
HCM LOS	С		

Minor Lane/Major Mvmt	NBL	NBT EBLn	1 EBLn2	SBT	SBR	
Capacity (veh/h)	564	- 19) 213	-	-	
HCM Lane V/C Ratio	0.024	- 0.03	3 0.077	-	-	
HCM Control Delay (s)	11.5	- 24.	7 23.3	-	-	
HCM Lane LOS	В	- (С С	-	-	
HCM 95th %tile Q(veh)	0.1	- 0.	1 0.2	-	-	

Appendix 4

Phone: Fax: E-Mail: _____Directional Two-Lane Highway Segment Analysis______ Analyst DRR Agency/Co. CTG Date Performed2019-08-06Analysis Time PeriodFriday PM Peak Hour Silverado Trail NB Highway Silverado North of Project From/To Jurisdiction Napa Co Analysis Year Existing without Project Description Paraduxx Winery _____Input Data_____ Peak hour factor, PHF 0.97 Highway class Class 1 Shoulder width 8.0 ft % Trucks and buses 5 % 12.0ft% Trucks crawling0.01.5miTruck crawl speed0.0Level% Recreational vehicles2 Lane width 0.0 % 0.0 Segment length mi/hr Level Terrain type % % No-passing zones 85 Access point density 9 - mi - % Grade: Length % Up/down /mi Analysis direction volume, Vd 549 veh/h Opposing direction volume, Vo 1265 veh/h _____Average Travel Speed____ Direction Analysis(d) Opposing (o) PCE for trucks, ET 1.1* 1.0 PCE for RVs, ER 1.0* 1.0 Heavy-vehicle adj. factor,(note-5) fHV 0.995 1.000 1.00 Grade adj. factor,(note-1) fg 1.00 569 pc/h Directional flow rate, (note-2) vi 1304 pc/h Free-Flow Speed from Field Measurement: Field measured speed, (note-3) S FM mi/h _ Observed total demand, (note-3) V veh/h Estimated Free-Flow Speed: Base free-flow speed, (note-3) BFFS 55.0 mi/h Adj. for lane and shoulder width, (note-3) fLS 0.0 mi/h Adj. for access point density,(note-3) fA 2.3 mi/h Free-flow speed, FFSd 52.8 mi/h mi/h Adjustment for no-passing zones, fnp 0.8 Average travel speed, ATSd 37.4 mi/h Percent Free Flow Speed, PFFS 70.9 %

Direction Anal	ysis(d)		0pp	osing	(0)
PCE for trucks, ET	1.0			1.0	
PCE for RVs, ER	1.0			1.0	
Heavy-vehicle adjustment factor, fHV	1.000			1.000	
Grade adjustment factor,(note-1) fg	1.00			1.00	
Directional flow rate,(note-2) vi	566 pc	c/h		1304	pc/h
Base percent time-spent-following,(note-4)	BPTSFd	64.4	00		_
Adjustment for no-passing zones, fnp		15.9			
Percent time-spent-following, PTSFd		69.2	00		
Level of Service and Other	Performa	ance Mea	asur	es	
Level of service, LOS		Е			
Volume to capacity ratio, v/c		0.33			
Peak 15-min vehicle-miles of travel, VMT15	5	212	17A	h-mi	
Peak-hour vehicle-miles of travel, VMT60	,	824		h-mi	
Peak 15-min total travel time, TT15		o⊿4 5.7		h-h	
Capacity from ATS, CdATS		5.7 1700		h/h	
		1700		h/h h/h	
Capacity from PTSF, CdPTSF					
Directional Capacity		1700	ve	h/h	
Passing Lane	Analysis_				
Total length of analysis segment, Lt				1.5	mi
Length of two-lane highway upstream of the	nagging	lang I		-	mi
Length of passing lane including tapers, I		ranc, i	Ju	_	mi
Average travel speed, ATSd (from above)	Ът			37.4	mi/h
Percent time-spent-following, PTSFd (from	above)			69.2	111 / 11
Level of service, LOSd (from above)	above)				
Level of service, Losd (from above)				E	
Average Travel Speed w	ith Passi	lng Lane	2		
Downstream length of two-lane highway with	nin effect	ive			
length of passing lane for average tra	vel speed	d, Lde		-	mi
Length of two-lane highway downstream of e					
length of the passing lane for average					
		speed, I	Ъ	-	mi
	e travel s	speed, 1	Ld	-	mi
Adj. factor for the effect of passing lane	e travel s	speed, 1	ſď	_	mi
Adj. factor for the effect of passing lane on average speed, fpl	e travel s e	speed, 1	Ξđ	-	mi
Adj. factor for the effect of passing lane on average speed, fpl Average travel speed including passing lan	e travel s e ne, ATSpl			-	
Adj. factor for the effect of passing lane on average speed, fpl Average travel speed including passing lan	e travel s e ne, ATSpl			- - 0.0	mi %
Adj. factor for the effect of passing lane on average speed, fpl Average travel speed including passing lan	e travel s e ne, ATSpl lane, PFF	Spl		- - 0.0	ક
Adj. factor for the effect of passing lane on average speed, fpl Average travel speed including passing lan Percent free flow speed including passing Percent Time-Spent-Followi	e travel s ne, ATSpl lane, PFF .ng with F	Spl Passing	Lan	- - 0.0 e	ક
Adj. factor for the effect of passing lane on average speed, fpl Average travel speed including passing lan Percent free flow speed including passing Percent Time-Spent-Followi Downstream length of two-lane highway with	e travel s ne, ATSpl lane, PFF ng with F nin effect	Spl Passing Live ler	Lan	- - 0.0 e	ક
Adj. factor for the effect of passing lane on average speed, fpl Average travel speed including passing lan Percent free flow speed including passing Percent Time-Spent-Followi Downstream length of two-lane highway with of passing lane for percent time-spent	e travel s ne, ATSpl lane, PFF ng with F nin effect -followir	Spl Passing tive ler	Lan ıgth	- - 0.0 e	ર
Adj. factor for the effect of passing lane on average speed, fpl Average travel speed including passing lan Percent free flow speed including passing Percent Time-Spent-Followi Downstream length of two-lane highway with of passing lane for percent time-spent Length of two-lane highway downstream of e	e travel s ne, ATSpl lane, PFF ng with F nin effect -followir effective	Spl Passing tive ler ng, Lde length	Lan ngth of	- - 0.0 e	% mi
Adj. factor for the effect of passing lane on average speed, fpl Average travel speed including passing lan Percent free flow speed including passing Percent Time-Spent-Followi Downstream length of two-lane highway with of passing lane for percent time-spent Length of two-lane highway downstream of e the passing lane for percent time-spent	e travel s ne, ATSpl lane, PFF ng with F nin effect effective nt-followi	Spl Passing tive ler ng, Lde length	Lan ngth of	- - 0.0 e	ર
Adj. factor for the effect of passing lane on average speed, fpl Average travel speed including passing lan Percent free flow speed including passing Percent Time-Spent-Followi Cownstream length of two-lane highway with of passing lane for percent time-spent Length of two-lane highway downstream of e the passing lane for percent time-spent Adj. factor for the effect of passing lane	e travel s ne, ATSpl lane, PFF ng with F nin effect effective nt-followi	Spl Passing tive ler ng, Lde length	Lan ngth of	- - 0.0 e	% mi
Adj. factor for the effect of passing lane on average speed, fpl Average travel speed including passing lan Percent free flow speed including passing Percent Time-Spent-Followi Cownstream length of two-lane highway with of passing lane for percent time-spent Length of two-lane highway downstream of e the passing lane for percent time-spent Adj. factor for the effect of passing lane on percent time-spent-following, fpl	e travel s ne, ATSpl lane, PFF ng with F nin effect effective nt-followi	Spl Passing tive ler ng, Lde length	Lan ngth of	- - 0.0 e	%
Adj. factor for the effect of passing lane on average speed, fpl Average travel speed including passing lan Percent free flow speed including passing Percent Time-Spent-Followi Downstream length of two-lane highway with of passing lane for percent time-spent Length of two-lane highway downstream of e the passing lane for percent time-spent Adj. factor for the effect of passing lane on percent time-spent-following, fpl	e travel s ne, ATSpl lane, PFF ng with F nin effect effective nt-followi	Spl Passing tive ler ng, Lde length	Lan ngth of	- - 0.0 e	% mi
Adj. factor for the effect of passing lane on average speed, fpl Average travel speed including passing lan Percent free flow speed including passing Percent Time-Spent-Followi Cownstream length of two-lane highway with of passing lane for percent time-spent Length of two-lane highway downstream of e the passing lane for percent time-spent Adj. factor for the effect of passing lane on percent time-spent-following, fpl Percent time-spent-following	e travel s ne, ATSpl lane, PFF ng with F nin effect -followir effective nt-followi	Spl Passing tive len length leng, Ld	Lan ngth of	- - 0.0 e	% mi %
Adj. factor for the effect of passing lane on average speed, fpl Average travel speed including passing lan Percent free flow speed including passing Percent Time-Spent-Followi Downstream length of two-lane highway with of passing lane for percent time-spent Length of two-lane highway downstream of e the passing lane for percent time-spent Adj. factor for the effect of passing lane on percent time-spent-following, fpl Percent time-spent-following, fpl	e travel s ne, ATSpl lane, PFF ng with F nin effect -followir effective nt-followi	Spl Passing tive len length leng, Ld	Lan ngth of	- - 0.0 e	% mi %
Adj. factor for the effect of passing lane on average speed, fpl Average travel speed including passing lan Percent free flow speed including passing Percent Time-Spent-Followi Oownstream length of two-lane highway with of passing lane for percent time-spent Length of two-lane highway downstream of e the passing lane for percent time-spent Adj. factor for the effect of passing lane on percent time-spent-following, fpl Percent time-spent-following, fpl including passing lane, PTSFpl	e travel s ne, ATSpl lane, PFF ng with F nin effect -followir effective t-followir effective	Spl Passing tive len length leng, Ld	Lan ngth of	- - 0.0 e	% mi %
Adj. factor for the effect of passing lane on average speed, fpl Average travel speed including passing lan Percent free flow speed including passing Percent Time-Spent-Followi Downstream length of two-lane highway with of passing lane for percent time-spent Length of two-lane highway downstream of e the passing lane for percent time-spent Adj. factor for the effect of passing lane on percent time-spent-following, fpl Percent time-spent-following including passing lane, PTSFpl Level of Service and Other Performan	e travel s ne, ATSpl lane, PFF ng with F nin effect -followir effective t-followir effective	Spl Passing tive len length lng, Ld tng, Ld	Lan ngth of n Pa	- - 0.0 e	% mi %
Adj. factor for the effect of passing lane on average speed, fpl Average travel speed including passing lan Percent free flow speed including passing Percent Time-Spent-Followi Downstream length of two-lane highway with of passing lane for percent time-spent Length of two-lane highway downstream of e the passing lane for percent time-spent Adj. factor for the effect of passing lane on percent time-spent-following, fpl Percent time-spent-following including passing lane, PTSFpl Level of Service and Other Performan Level of service including passing lane, I	e travel s ne, ATSpl lane, PFF ng with F nin effect -followir effective t-followir effective	Spl Passing tive len length lng, Ld tng, Ld	Lan ngth of n Pa	- - 0.0 e - - ssing	% mi %

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	566.0
Effective width of outside lane, We	28.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	3.05
Bicycle LOS	С

Notes:

- 1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific dewngrade segments are treated as level terrain.
- 2. If vi (vd or vo) >= 1,700 pc/h, terminate analysis-the LOS is F.
- 3. For the analysis direction only and for v>200 veh/h.
- 4. For the analysis direction only.
- 5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.
- * These items have been entered or edited to override calculated value

Phone: Fax: E-Mail: _____Directional Two-Lane Highway Segment Analysis______ Analyst DRR Agency/Co. CTG Date Performed 2019-08-06 Analysis Time Period Friday PM Peak Hour Silverado Trail NB Highway Silverado South of Project From/To Jurisdiction Napa Co Analysis Year Existing without Project Description Paraduxx Winery _____Input Data_____ Peak hour factor, PHF 0.97 Highway class Class 1 Shoulder width 8.0 ft % Trucks and buses 5 % Lane width 0.0 % Segment length 0.0 mi/hr % Recreational vehicles 2 Terrain type 8 mi % No-passing zones 50 % Access point density 12 Grade: Length - mi % Up/down _ /mi Analysis direction volume, Vd 550 veh/h Opposing direction volume, Vo 1276 veh/h _____Average Travel Speed____ Direction Opposing (o) Analysis(d) PCE for trucks, ET 1.1* 1.0 PCE for RVs, ER 1.0* 1.0 Heavy-vehicle adj. factor,(note-5) fHV 0.995 1.000 1.00 Grade adj. factor, (note-1) fg 1.00 570 pc/h Directional flow rate, (note-2) vi 1315 pc/h Free-Flow Speed from Field Measurement: Field measured speed, (note-3) S FM mi/h Observed total demand, (note-3) V _ veh/h Estimated Free-Flow Speed: Base free-flow speed, (note-3) BFFS 55.0 mi/h Adj. for lane and shoulder width, (note-3) fLS 0.0 mi/h Adj. for access point density,(note-3) fA 3.0 mi/h Free-flow speed, FFSd 52.0 mi/h 0.6 mi/h Adjustment for no-passing zones, fnp Average travel speed, ATSd 36.8 mi/h Percent Free Flow Speed, PFFS 70.8 %

	<u></u>			
Direction Analysis(d)		na0	osina	(0)
PCE for trucks, ET 1.0		•	1.0	
PCE for RVs, ER 1.0			1.0	
Heavy-vehicle adjustment factor, fHV 1.000			1.000)
Grade adjustment factor, (note-1) fg 1.00			1.00	
Directional flow rate, (note-2) vi 567 pc	/h		1315	pc/h
		٥.	T 2 T 2	pe/II
Base percent time-spent-following, (note-4) BPTSFd		010		
	13.9	0		
Percent time-spent-following, PTSFd	68.6	010		
Level of Service and Other Performa	nce Me	easur	res	
Level of service, LOS	E			
Olume to capacity ratio, v/c	0.33			
	113	ve	eh-mi	
	440		eh-mi	
	3.1		eh-h	
	1700		eh/h	
	1700		eh/h	
Directional Capacity	1700	VE	eh/h	
Passing Lane Analysis_				
otal length of analysis segment, Lt			0.8	mi
ength of two-lane highway upstream of the passing	lang	T.11		mi
ength of passing lane including tapers, Lpl	ranc,	шu	_	mi
verage travel speed, ATSd (from above)			36.8	mi/h
Percent time-spent-following, PTSFd (from above)			68.6	
Level of service, LOSd (from above)			Ε	
Average Travel Speed with Passi	ng Lan	ie		
Jownstream length of two-lane highway within effect	lve			
			_	mi
length of passing lane for average travel speed			-	mi
length of passing lane for average travel speed ength of two-lane highway downstream of effective	, Lde		-	
length of passing lane for average travel speed ength of two-lane highway downstream of effective length of the passing lane for average travel s	, Lde		-	mi mi
<pre>length of passing lane for average travel speed ength of two-lane highway downstream of effective length of the passing lane for average travel s dj. factor for the effect of passing lane</pre>	, Lde		-	
<pre>length of passing lane for average travel speed ength of two-lane highway downstream of effective length of the passing lane for average travel s dj. factor for the effect of passing lane on average speed, fpl</pre>	, Lde		-	
<pre>length of passing lane for average travel speed ength of two-lane highway downstream of effective length of the passing lane for average travel s dj. factor for the effect of passing lane on average speed, fpl average travel speed including passing lane, ATSpl</pre>	, Lde peed,		-	mi
<pre>length of passing lane for average travel speed length of two-lane highway downstream of effective length of the passing lane for average travel s adj. factor for the effect of passing lane on average speed, fpl average travel speed including passing lane, ATSpl</pre>	, Lde peed,		- - - 0.0	
<pre>length of passing lane for average travel speed ength of two-lane highway downstream of effective length of the passing lane for average travel s adj. factor for the effect of passing lane on average speed, fpl average travel speed including passing lane, ATSpl</pre>	, Lde peed, Spl	Ld	- - 0.0	mi %
Length of two-lane highway downstream of effective length of the passing lane for average travel s Adj. factor for the effect of passing lane on average speed, fpl Average travel speed including passing lane, ATSpl Percent free flow speed including passing lane, PFF	, Lde peed, Spl assing	Ld Lar	- - 0.0 ne	mi %
<pre>length of passing lane for average travel speed ength of two-lane highway downstream of effective length of the passing lane for average travel s adj. factor for the effect of passing lane on average speed, fpl average travel speed including passing lane, ATSpl Percent free flow speed including passing lane, PFF Percent Time-Spent-Following with P pownstream length of two-lane highway within effect</pre>	, Lde peed, Spl assing ive le	Ld Lar	- - 0.0 ne	mi %
<pre>length of passing lane for average travel speed ength of two-lane highway downstream of effective length of the passing lane for average travel s adj. factor for the effect of passing lane on average speed, fpl average travel speed including passing lane, ATSpl Percent free flow speed including passing lane, PFF Percent Time-Spent-Following with P pownstream length of two-lane highway within effect of passing lane for percent time-spent-following</pre>	, Lde peed, Spl assing ive le g, Lde	Ld J Lar ength	- - 0.0 ne	mi %
<pre>length of passing lane for average travel speed ength of two-lane highway downstream of effective length of the passing lane for average travel s adj. factor for the effect of passing lane on average speed, fpl average travel speed including passing lane, ATSpl ercent free flow speed including passing lane, PFF Percent Time-Spent-Following with P oownstream length of two-lane highway within effect of passing lane for percent time-spent-followin ength of two-lane highway downstream of effective</pre>	, Lde peed, Spl assing ive le g, Lde length	Ld g Lar ength c of	- - 0.0 ne	mi %
<pre>length of passing lane for average travel speed ength of two-lane highway downstream of effective length of the passing lane for average travel s dj. factor for the effect of passing lane on average speed, fpl verage travel speed including passing lane, ATSpl ercent free flow speed including passing lane, PFF Percent Time-Spent-Following with P pownstream length of two-lane highway within effect of passing lane for percent time-spent-followin ength of two-lane highway downstream of effective the passing lane for percent time-spent-followin</pre>	, Lde peed, Spl assing ive le g, Lde length	Ld g Lar ength c of	- - 0.0 ne	mi %
<pre>length of passing lane for average travel speed ength of two-lane highway downstream of effective length of the passing lane for average travel s adj. factor for the effect of passing lane on average speed, fpl average travel speed including passing lane, ATSpl ercent free flow speed including passing lane, PFF </pre>	, Lde peed, Spl assing ive le g, Lde length	Ld g Lar ength c of	- - 0.0 ne	mi %
<pre>length of passing lane for average travel speed ength of two-lane highway downstream of effective length of the passing lane for average travel s adj. factor for the effect of passing lane on average speed, fpl average travel speed including passing lane, ATSpl Percent free flow speed including passing lane, PFF </pre>	, Lde peed, Spl assing ive le g, Lde length	Ld g Lar ength c of	- - 0.0 ne	mi %
<pre>length of passing lane for average travel speed ength of two-lane highway downstream of effective length of the passing lane for average travel s dj. factor for the effect of passing lane on average speed, fpl verage travel speed including passing lane, ATSpl ercent free flow speed including passing lane, PFF Percent Time-Spent-Following with P pownstream length of two-lane highway within effect of passing lane for percent time-spent-followin ength of two-lane highway downstream of effective the passing lane for percent time-spent-followin dj. factor for the effect of passing lane on percent time-spent-following, fpl ercent time-spent-following</pre>	, Lde peed, Spl assing ive le g, Lde length	Ld g Lar ength c of	- - 0.0 ne	mi % mi mi
<pre>length of passing lane for average travel speed ength of two-lane highway downstream of effective length of the passing lane for average travel s adj. factor for the effect of passing lane on average speed, fpl average travel speed including passing lane, ATSpl Percent free flow speed including passing lane, PFF </pre>	, Lde peed, Spl assing ive le g, Lde length	Ld g Lar ength c of	- - 0.0 ne	mi %
<pre>length of passing lane for average travel speed ength of two-lane highway downstream of effective length of the passing lane for average travel s adj. factor for the effect of passing lane on average speed, fpl average travel speed including passing lane, ATSpl Percent free flow speed including passing lane, PFF Percent Time-Spent-Following with P pownstream length of two-lane highway within effect of passing lane for percent time-spent-followin ength of two-lane highway downstream of effective the passing lane for percent time-spent-followin dj. factor for the effect of passing lane on percent time-spent-following, fpl percent time-spent-following</pre>	, Lde peed, Spl assing ive le g, Lde length ng, Ld	Ld Langth of	- 0.0 ne - - -	mi % mi %
<pre>length of passing lane for average travel speed Length of two-lane highway downstream of effective length of the passing lane for average travel s Adj. factor for the effect of passing lane on average speed, fpl Average travel speed including passing lane, ATSpl Percent free flow speed including passing lane, PFF </pre>	, Lde peed, Spl assing ive le g, Lde length ng, Ld	Ld Langth of	- 0.0 ne - - -	mi % mi %
<pre>length of passing lane for average travel speed ength of two-lane highway downstream of effective length of the passing lane for average travel s adj. factor for the effect of passing lane on average speed, fpl verage travel speed including passing lane, ATSpl ercent free flow speed including passing lane, PFF </pre>	, Lde peed, Spl assing ive le g, Lde length ng, Ld	Ld Lar ength of l	- 0.0 ne - - - assing	mi % mi %
<pre>length of passing lane for average travel speed ength of two-lane highway downstream of effective length of the passing lane for average travel s adj. factor for the effect of passing lane on average speed, fpl werage travel speed including passing lane, ATSpl percent free flow speed including passing lane, PFF </pre>	, Lde peed, Spl assing ive le g, Lde length ng, Ld	Ld Lar ength of l	- 0.0 ne - - -	mi % mi %

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	567.0
Effective width of outside lane, We	28.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	3.05
Bicycle LOS	С

Notes:

- 1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific dewngrade segments are treated as level terrain.
- 2. If vi (vd or vo) >= 1,700 pc/h, terminate analysis-the LOS is F.
- 3. For the analysis direction only and for v>200 veh/h.
- 4. For the analysis direction only.
- 5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.
- * These items have been entered or edited to override calculated value

Phone: Fax: E-Mail: _____Directional Two-Lane Highway Segment Analysis______ Analyst DRR Agency/Co. CTG Date Performed 2019-08-06 Analysis Time Period Friday PM Peak Hour Silverado Trail SB Highway Silverado North of Project From/To Jurisdiction Napa Co Analysis Year Existing w-o Project Description Paraduxx Winery _____Input Data_____ Peak hour factor, PHF 0.97 Highway class Class 1 Shoulder width 8.0 ft % Trucks and buses 5 % 12.0ft% Trucks crawling1.5miTruck crawl speedLevel% Recreational vehi Lane width 0.0 % Segment length 0.0 mi/hr Level % Recreational vehicles 2 Terrain type 8 - mi % No-passing zones 70 - % Access point density 9 Grade: Length 8 Up/down /mi Analysis direction volume, Vd 1265 veh/h Opposing direction volume, Vo 549 veh/h _____Average Travel Speed____ Direction Opposing (o) Analysis(d) PCE for trucks, ET 1.1* 1.1 PCE for RVs, ER 1.0* 1.0 Heavy-vehicle adj. factor,(note-5) fHV 0.995 0.995 Grade adj. factor,(note-1) fg 1.00 1.00 1311 pc/h Directional flow rate, (note-2) vi 569 pc/h Free-Flow Speed from Field Measurement: Field measured speed, (note-3) S FM mi/h Observed total demand, (note-3) V _ veh/h Estimated Free-Flow Speed: Base free-flow speed, (note-3) BFFS 55.0 mi/h Adj. for lane and shoulder width, (note-3) fLS 0.0 mi/h Adj. for access point density,(note-3) fA 2.3 mi/h Free-flow speed, FFSd 52.8 mi/h mi/h Adjustment for no-passing zones, fnp 1.8 Average travel speed, ATSd 36.4 mi/h Percent Free Flow Speed, PFFS 69.0 %

Percent Time-Sper	nt-Followi	ing			
Direction Ana	lysis(d)		١nn	onsing	(0)
PCE for trucks, ET	1.0		001	1.0	(0)
PCE for RVs, ER	1.0			1.0	
Heavy-vehicle adjustment factor, fHV	1.000			1.000)
Grade adjustment factor,(note-1) fg	1.00			1.00	
Directional flow rate, (note-2) vi		c/h		566	pc/h
Base percent time-spent-following,(note-4	-		00		P 0 / 11
Adjustment for no-passing zones, fnp		15.4	Ũ		
Percent time-spent-following, PTSFd		92.4	00		
Level of Service and Othe:	r Performa	ance Me	easui	res	
Lovel of corvice LOS		T.			
Level of service, LOS		E 0 77			
Volume to capacity ratio, v/c	F	0.77		- la	
Peak 15-min vehicle-miles of travel, VMT1	5	489		eh-mi	
Peak-hour vehicle-miles of travel, VMT60		1898		eh-mi	
Peak 15-min total travel time, TT15		13.4		eh-h	
Capacity from ATS, CdATS		1700		eh/h	
Capacity from PTSF, CdPTSF		1700		eh/h	
Directional Capacity		1700	ve	eh/h	
Passing Lane	Analysis_				
Total length of analysis segment, Lt				1.5	mi
Length of two-lane highway upstream of the	e pagging	lane	т 11		mi
Length of passing lane including tapers, I		Talle,	шu	-	mi
Average travel speed, ATSd (from above)	пЪт			- 36.4	mi/h
	aborra)			30.4 92.4	111 / 11
Percent time-spent-following, PTSFd (from	above)				
Level of service, LOSd (from above)				E	
Average Travel Speed	with Passi	ing Lar	ne		
Downstream length of two-lane highway with	hin effect	cive			
length of passing lane for average tra	avel speed	d, Lde		-	mi
Length of two-lane highway downstream of (_				
length of the passing lane for average	e travel s	speed,	Ld	-	mi
Adj. factor for the effect of passing land	e				
on average speed, fpl				-	
Average travel speed including passing la				-	
Percent free flow speed including passing	lane, PFI	FSpl		0.0	00
Percent Time-Spent-Follow	ing with H	Passing	g Lar	ne	
Downstream length of two-lane highway with	hin effect	cive le	enati	ı	
of passing lane for percent time-spent			-	_	mi
Length of two-lane highway downstream of a					
the passing lane for percent time-spen		-		_	mi
Adj. factor for the effect of passing land		у, цо	~		
on percent time-spent-following, fpl				_	
				-	
Percent time-spent-following including passing lane, PTSFpl				-	00
Level of Service and Other Performan	nce Measun	res wit	ch Pa	assina	Lane
			(
Level of service including passing lane, I	LOSpl	Е			
Peak 15-min total travel time, TT15		-	ve	eh-h	
·					
Bicycle Level o	of Service	e			

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	1304.1
Effective width of outside lane, We	28.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	3.47
Bicycle LOS	С

Notes:

- 1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific dewngrade segments are treated as level terrain.
- 2. If vi (vd or vo) >= 1,700 pc/h, terminate analysis-the LOS is F.
- 3. For the analysis direction only and for v>200 veh/h.
- 4. For the analysis direction only.
- 5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.
- * These items have been entered or edited to override calculated value

Phone: Fax: E-Mail: _____Directional Two-Lane Highway Segment Analysis______ Analyst DRR Agency/Co. CTG Date Performed 2019-08-06 Analysis Time Period Friday PM Peak Hour Silverado Trail SB Highway Silverado North of Project From/To Jurisdiction Napa Co Analysis Year Existing without Project Description Paraduxx Winery _____Input Data_____ Peak hour factor, PHF 0.97 Highway class Class 1 Shoulder width 8.0 ft % Trucks and buses 5 % 12.0ft% Trucks crawling0.8miTruck crawl speedLevel% Recreational vehi Lane width 0.0 % Segment length 0.0 mi/hr % Recreational vehicles 2 Terrain type 8 - mi % No-passing zones 100 - % Access point density 12 Grade: Length 8 Up/down /mi Analysis direction volume, Vd 1276 veh/h Opposing direction volume, Vo 550 veh/h _____Average Travel Speed____ Direction Opposing (o) Analysis(d) PCE for trucks, ET 1.1* 1.1 PCE for RVs, ER 1.0* 1.0 Heavy-vehicle adj. factor,(note-5) fHV 0.995 0.995 Grade adj. factor,(note-1) fg 1.00 1.00 1322 pc/h Directional flow rate, (note-2) vi 570 pc/h Free-Flow Speed from Field Measurement: Field measured speed, (note-3) S FM mi/h Observed total demand, (note-3) V _ veh/h Estimated Free-Flow Speed: Base free-flow speed, (note-3) BFFS 55.0 mi/h Adj. for lane and shoulder width, (note-3) fLS 0.0 mi/h Adj. for access point density,(note-3) fA 3.0 mi/h Free-flow speed, FFSd 52.0 mi/h mi/h Adjustment for no-passing zones, fnp 2.0 Average travel speed, ATSd 35.3 mi/h Percent Free Flow Speed, PFFS 67.9 ŝ

	ng			
Direction Analysis(d)		٥nr	posing	(\mathbf{O})
PCE for trucks, ET 1.0		001	1.0	(0)
PCE for RVs, ER 1.0				
			1.0	`
leavy-vehicle adjustment factor, fHV 1.000			1.000)
rade adjustment factor, (note-1) fg 1.00			1.00	
	c/h		567	pc/h
ase percent time-spent-following,(note-4) BPTSFd	81.9	00		
djustment for no-passing zones, fnp	16.1			
ercent time-spent-following, PTSFd	93.1	010		
Level of Service and Other Performa	ance Me	asuı	res	
evel of service, LOS	Е			
folume to capacity ratio, v/c	0.78			
eak 15-min vehicle-miles of travel, VMT15	263	774	eh-mi	
eak-hour vehicle-miles of travel, VMT60	1021		en-mi	
eak 15-min total travel time, TT15	7.5		eh-h	
apacity from ATS, CdATS	1700		eh/h	
apacity from PTSF, CdPTSF	1700		eh/h	
irectional Capacity	1700	ve	eh/h	
Passing Lane Analysis_				
otal length of analysis segment, Lt			0.8	mi
ength of two-lane highway upstream of the passing	lane.	Tiu	_	mi
ength of passing lane including tapers, Lpl	201107	- 4	_	mi
verage travel speed, ATSd (from above)			35.3	mi/h
ercent time-spent-following, PTSFd (from above)			93.1	111 / 11
evel of service, LOSd (from above)			Е	
Average Travel Speed with Passi	lng Lan	.e		
ownstream length of two-lane highway within effect	ivo			
			-	mi
length of passing lane for average travel speed			-	mi
length of passing lane for average travel speed ength of two-lane highway downstream of effective	l, Lde	ъđ	_	
length of passing lane for average travel speed ength of two-lane highway downstream of effective length of the passing lane for average travel s	l, Lde	Ld	-	mi mi
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<pre>length of passing lane for average travel speed ength of two-lane highway downstream of effective length of the passing lane for average travel s dj. factor for the effect of passing lane on average speed, fpl verage travel speed including passing lane, ATSpl</pre>	l, Lde speed,	Ld	-	mi
<pre>length of passing lane for average travel speed ength of two-lane highway downstream of effective length of the passing lane for average travel s dj. factor for the effect of passing lane on average speed, fpl verage travel speed including passing lane, ATSpl</pre>	l, Lde speed,	Ld	- - - 0.0	
<pre>length of passing lane for average travel speed ength of two-lane highway downstream of effective length of the passing lane for average travel s dj. factor for the effect of passing lane on average speed, fpl verage travel speed including passing lane, ATSpl</pre>	l, Lde speed, Spl		- - 0.0	mi %
<pre>length of passing lane for average travel speed ength of two-lane highway downstream of effective length of the passing lane for average travel s dj. factor for the effect of passing lane on average speed, fpl verage travel speed including passing lane, ATSpl ercent free flow speed including passing lane, PFF Percent Time-Spent-Following with F</pre>	d, Lde speed, Spl Passing	Lar	- - 0.0 ne	mi %
<pre>length of passing lane for average travel speed ength of two-lane highway downstream of effective length of the passing lane for average travel s dj. factor for the effect of passing lane on average speed, fpl verage travel speed including passing lane, ATSpl ercent free flow speed including passing lane, PFF Percent Time-Spent-Following with F ownstream length of two-lane highway within effect</pre>	d, Lde speed, Spl Passing	- Lar	- - 0.0 ne	mi %
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<pre>length of passing lane for average travel speed ength of two-lane highway downstream of effective length of the passing lane for average travel s dj. factor for the effect of passing lane on average speed, fpl verage travel speed including passing lane, ATSpl ercent free flow speed including passing lane, PFF Percent Time-Spent-Following with F ownstream length of two-lane highway within effect of passing lane for percent time-spent-following ength of two-lane highway downstream of effective</pre>	A, Lde speed, Spl Passing tive le ng, Lde length	Lar ngtl	- - 0.0 ne	mi %
<pre>length of passing lane for average travel speed ength of two-lane highway downstream of effective length of the passing lane for average travel s dj. factor for the effect of passing lane on average speed, fpl verage travel speed including passing lane, ATSpl ercent free flow speed including passing lane, PFF Percent Time-Spent-Following with F ownstream length of two-lane highway within effect of passing lane for percent time-spent-following ength of two-lane highway downstream of effective the passing lane for percent time-spent-following</pre>	A, Lde speed, Spl Passing tive le ng, Lde length	Lar ngtl	- - 0.0 ne	mi %
<pre>length of passing lane for average travel speed ength of two-lane highway downstream of effective length of the passing lane for average travel s dj. factor for the effect of passing lane on average speed, fpl verage travel speed including passing lane, ATSpl ercent free flow speed including passing lane, PFF Percent Time-Spent-Following with F ownstream length of two-lane highway within effect of passing lane for percent time-spent-following ength of two-lane highway downstream of effective the passing lane for percent time-spent-following dj. factor for the effect of passing lane</pre>	A, Lde speed, Spl Passing tive le ng, Lde length	Lar ngtl	- - 0.0 ne	mi %
<pre>length of passing lane for average travel speed ength of two-lane highway downstream of effective length of the passing lane for average travel s dj. factor for the effect of passing lane on average speed, fpl verage travel speed including passing lane, ATSpl ercent free flow speed including passing lane, PFF </pre>	A, Lde speed, Spl Passing tive le ng, Lde length	Lar ngtl	- - 0.0 ne	mi %
<pre>length of passing lane for average travel speed ength of two-lane highway downstream of effective length of the passing lane for average travel s dj. factor for the effect of passing lane on average speed, fpl verage travel speed including passing lane, ATSpl ercent free flow speed including passing lane, PFF Percent Time-Spent-Following with F ownstream length of two-lane highway within effect of passing lane for percent time-spent-following ength of two-lane highway downstream of effective the passing lane for percent time-spent-following dj. factor for the effect of passing lane on percent time-spent-following, fpl ercent time-spent-following</pre>	A, Lde speed, Spl Passing tive le ng, Lde length	Lar ngtl	- - 0.0 ne	mi % mi mi
<pre>length of passing lane for average travel speed ength of two-lane highway downstream of effective length of the passing lane for average travel s dj. factor for the effect of passing lane on average speed, fpl verage travel speed including passing lane, ATSpl ercent free flow speed including passing lane, PFF Percent Time-Spent-Following with F ownstream length of two-lane highway within effect of passing lane for percent time-spent-following ength of two-lane highway downstream of effective the passing lane for percent time-spent-following dj. factor for the effect of passing lane on percent time-spent-following, fpl</pre>	A, Lde speed, Spl Passing tive le ng, Lde length	Lar ngtl	- - 0.0 ne	mi %
<pre>length of passing lane for average travel speed ength of two-lane highway downstream of effective length of the passing lane for average travel s dj. factor for the effect of passing lane on average speed, fpl verage travel speed including passing lane, ATSpl ercent free flow speed including passing lane, PFF Percent Time-Spent-Following with F ownstream length of two-lane highway within effect of passing lane for percent time-spent-following ength of two-lane highway downstream of effective the passing lane for percent time-spent-following dj. factor for the effect of passing lane on percent time-spent-following, fpl ercent time-spent-following</pre>	A, Lde speed, Spl Passing ive le ng, Lde length ing, Ld	Lar ngtl of	- 0.0 ne - - -	mi % mi %
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<pre>length of passing lane for average travel speed ength of two-lane highway downstream of effective length of the passing lane for average travel s dj. factor for the effect of passing lane on average speed, fpl verage travel speed including passing lane, ATSpl ercent free flow speed including passing lane, PFF Percent Time-Spent-Following with F ownstream length of two-lane highway within effect of passing lane for percent time-spent-followin ength of two-lane highway downstream of effective the passing lane for percent time-spent-followin dj. factor for the effect of passing lane on percent time-spent-following, fpl ercent time-spent-following including passing lane, PTSFpl Level of Service and Other Performance Measur</pre>	d, Lde speed, Spl Passing tive le ng, Lde length ing, Ld	Lar ngtl of h Pa	- 0.0 ne - - -	mi % mi %

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	1315.5
Effective width of outside lane, We	28.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	3.48
Bicycle LOS	С

Notes:

- 1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific dewngrade segments are treated as level terrain.
- 2. If vi (vd or vo) >= 1,700 pc/h, terminate analysis-the LOS is F.
- 3. For the analysis direction only and for v>200 veh/h.
- 4. For the analysis direction only.
- 5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.
- * These items have been entered or edited to override calculated value

Phone: Fax: E-Mail: _____Directional Two-Lane Highway Segment Analysis______ Analyst DRR Agency/Co. CTG Agency, eetDate Performed2019-08-06Analysis Time PeriodSaturday PM Peak HourClassic Tracide Tr Silverado Trail NB Highway Silverado North of Project From/To Jurisdiction Napa Co Analysis Year Existing without Project Description Paraduxx Winery _____Input Data_____ Peak hour factor, PHF 0.88 Highway class Class 1 Shoulder width 8.0 ft % Trucks and buses 5 % 12.0ft% Trucks crawling0.01.5miTruck crawl speed0.0Level% Recreational vehicles2 Lane width 0.0 % 0.0 Segment length mi/hr Level Terrain type 8 - mi % No-passing zones 85 - % Access point density 9 Grade: Length % Up/down /mi Analysis direction volume, Vd 557 veh/h Opposing direction volume, Vo 1088 veh/h _____Average Travel Speed____ Direction Opposing (o) Analysis(d) PCE for trucks, ET 1.1* 1.0 PCE for RVs, ER 1.0* 1.0 Heavy-vehicle adj. factor,(note-5) fHV 0.995 1.000 1.00 Grade adj. factor, (note-1) fg 1.00 636 pc/h Directional flow rate, (note-2) vi 1236 pc/h Free-Flow Speed from Field Measurement: Field measured speed, (note-3) S FM mi/h _ Observed total demand, (note-3) V veh/h Estimated Free-Flow Speed: Base free-flow speed, (note-3) BFFS 55.0 mi/h Adj. for lane and shoulder width, (note-3) fLS 0.0 mi/h Adj. for access point density,(note-3) fA 2.3 mi/h Free-flow speed, FFSd 52.8 mi/h 0.9 mi/h Adjustment for no-passing zones, fnp Average travel speed, ATSd 37.4 mi/h Percent Free Flow Speed, PFFS 70.8 %

	.ng		
Direction Analysis(d)		Opposin	-
PCE for trucks, ET 1.0		1.0	
PCE for RVs, ER 1.0		1.0	
Heavy-vehicle adjustment factor, fHV 1.000		1.0	00
Grade adjustment factor,(note-1) fg 1.00		1.0	0
Directional flow rate,(note-2) vi 633 pc	c/h	123	6 pc/h
Base percent time-spent-following,(note-4) BPTSFd	67.3	010	
	17.0		
Percent time-spent-following, PTSFd	73.1	00	
Level of Service and Other Performa	ance Mea	asures	
Level of service, LOS	E		
Jolume to capacity ratio, v/c	0.37		
Peak 15-min vehicle-miles of travel, VMT15	237	veh-mi	
Peak-hour vehicle-miles of travel, VMT60	836	ven mi veh-mi	
	6.3	ven-mi veh-h	
Peak 15-min total travel time, TT15			
Capacity from ATS, CdATS	1700	veh/h	
Capacity from PTSF, CdPTSF	1700	veh/h	
Directional Capacity	1700	veh/h	
Passing Lane Analysis_			
otal length of analysis segment, Lt		1.5	mi
Length of two-lane highway upstream of the passing	lane 1		mi
ength of passing lane including tapers, Lpl	ranc, i	_	mi
verage travel speed, ATSd (from above)		37.4	
Percent time-spent-following, PTSFd (from above)		73.1	
Level of service, LOSd (from above)		E	
Average Travel Speed with Passi			
Metage Havel Speed with labb	ng Lane	e	
Downstream length of two-lane highway within effect		e	
ownstream length of two-lane highway within effect	ive	e	
ownstream length of two-lane highway within effect length of passing lane for average travel speed	ive	e	
ownstream length of two-lane highway within effect length of passing lane for average travel speed ength of two-lane highway downstream of effective	ive 1, Lde	_	mi
ownstream length of two-lane highway within effect length of passing lane for average travel speed ength of two-lane highway downstream of effective length of the passing lane for average travel s	ive 1, Lde	_	
ownstream length of two-lane highway within effect length of passing lane for average travel speed ength of two-lane highway downstream of effective length of the passing lane for average travel s adj. factor for the effect of passing lane	ive 1, Lde	_	mi
ownstream length of two-lane highway within effect length of passing lane for average travel speed ength of two-lane highway downstream of effective length of the passing lane for average travel s dj. factor for the effect of passing lane on average speed, fpl	ive 1, Lde	_	mi
ownstream length of two-lane highway within effect length of passing lane for average travel speed ength of two-lane highway downstream of effective length of the passing lane for average travel s dj. factor for the effect of passing lane on average speed, fpl average travel speed including passing lane, ATSpl	ive 1, Lde speed, 1	- Ld - - -	mi mi
Downstream length of two-lane highway within effect length of passing lane for average travel speed length of two-lane highway downstream of effective length of the passing lane for average travel s adj. factor for the effect of passing lane	ive 1, Lde speed, 1	_	mi
Downstream length of two-lane highway within effect length of passing lane for average travel speed length of two-lane highway downstream of effective length of the passing lane for average travel s adj. factor for the effect of passing lane on average speed, fpl average travel speed including passing lane, ATSpl	cive d, Lde speed, 1 Spl	- Ld - - - 0.0	mi mi %
Downstream length of two-lane highway within effect length of passing lane for average travel speed length of two-lane highway downstream of effective length of the passing lane for average travel s adj. factor for the effect of passing lane on average speed, fpl average travel speed including passing lane, ATSpl Percent free flow speed including passing lane, PFF Percent Time-Spent-Following with F	ive d, Lde speed, 1 Spl Passing	- Ld - - 0.0 Lane	mi mi %
Downstream length of two-lane highway within effect length of passing lane for average travel speed length of two-lane highway downstream of effective length of the passing lane for average travel s adj. factor for the effect of passing lane on average speed, fpl average travel speed including passing lane, ATSpl Percent free flow speed including passing lane, PFF Percent Time-Spent-Following with F	ive d, Lde speed, 1 Spl Passing tive len	- Ld - - 0.0 Lane	mi mi %
<pre>Downstream length of two-lane highway within effect length of passing lane for average travel speed length of two-lane highway downstream of effective length of the passing lane for average travel s adj. factor for the effect of passing lane on average speed, fpl average travel speed including passing lane, ATSpl Percent free flow speed including passing lane, PFF Percent Time-Spent-Following with F pownstream length of two-lane highway within effect of passing lane for percent time-spent-following</pre>	ive d, Lde speed, 1 Spl Passing tive len ng, Lde	- Ld - - 0.0 Lane ngth -	mi mi %
<pre>ownstream length of two-lane highway within effect length of passing lane for average travel speed ength of two-lane highway downstream of effective length of the passing lane for average travel s dj. factor for the effect of passing lane on average speed, fpl .verage travel speed including passing lane, ATSpl ercent free flow speed including passing lane, PFF Percent Time-Spent-Following with F ownstream length of two-lane highway within effect of passing lane for percent time-spent-following ength of two-lane highway downstream of effective</pre>	Speed, 1 Speed, 1 Spl assing ive length	- Ld - - 0.0 Lane ngth - of	mi mi %
<pre>Downstream length of two-lane highway within effect length of passing lane for average travel speed length of two-lane highway downstream of effective length of the passing lane for average travel s adj. factor for the effect of passing lane on average speed, fpl average travel speed including passing lane, ATSpl Percent free flow speed including passing lane, PFF Percent Time-Spent-Following with F pownstream length of two-lane highway within effect of passing lane for percent time-spent-following ength of two-lane highway downstream of effective the passing lane for percent time-spent-following the passing lane for percent time-spent-following</pre>	Speed, 1 Speed, 1 Spl assing ive length	- Ld - - 0.0 Lane ngth - of	mi mi %
<pre>Downstream length of two-lane highway within effect length of passing lane for average travel speed length of two-lane highway downstream of effective length of the passing lane for average travel s adj. factor for the effect of passing lane on average speed, fpl average travel speed including passing lane, ATSpl ercent free flow speed including passing lane, PFF </pre>	Speed, 1 Speed, 1 Spl assing ive length	- Ld - - 0.0 Lane ngth - of	mi mi %
<pre>Downstream length of two-lane highway within effect length of passing lane for average travel speed ength of two-lane highway downstream of effective length of the passing lane for average travel s adj. factor for the effect of passing lane on average speed, fpl average travel speed including passing lane, ATSpl ercent free flow speed including passing lane, PFF </pre>	Speed, 1 Speed, 1 Spl assing ive length	- Ld - - 0.0 Lane ngth - of	mi mi %
<pre>Downstream length of two-lane highway within effect length of passing lane for average travel speed length of two-lane highway downstream of effective length of the passing lane for average travel s adj. factor for the effect of passing lane on average speed, fpl average travel speed including passing lane, ATSpl Dercent free flow speed including passing lane, PFF </pre>	Speed, 1 Speed, 1 Spl assing ive length	- Ld - - 0.0 Lane ngth - of	mi mi %
<pre>Downstream length of two-lane highway within effect length of passing lane for average travel speed length of two-lane highway downstream of effective length of the passing lane for average travel s adj. factor for the effect of passing lane on average speed, fpl average travel speed including passing lane, ATSpl Dercent free flow speed including passing lane, PFF </pre>	rspl assing cive len length ng, Ld	- Ld - - 0.0 Lane ngth - of - -	mi mi %
<pre>Downstream length of two-lane highway within effect length of passing lane for average travel speed length of two-lane highway downstream of effective length of the passing lane for average travel s Adj. factor for the effect of passing lane on average speed, fpl average travel speed including passing lane, ATSpl Percent free flow speed including passing lane, PFF Percent Time-Spent-Following with F Downstream length of two-lane highway within effect of passing lane for percent time-spent-following the passing lane for percent time-spent-following dj. factor for the effect of passing lane on percent time-spent-following, fpl Dercent time-spent-following including passing lane, PTSFpl Level of Service and Other Performance Measure</pre>	rspl assing cive len length ng, Ld	- Ld - - 0.0 Lane ngth - of - -	mi mi %
<pre>Downstream length of two-lane highway within effect length of passing lane for average travel speed ength of two-lane highway downstream of effective length of the passing lane for average travel s adj. factor for the effect of passing lane on average speed, fpl average travel speed including passing lane, ATSpl Dercent free flow speed including passing lane, PFF Percent Time-Spent-Following with F Downstream length of two-lane highway within effect of passing lane for percent time-spent-following ength of two-lane highway downstream of effective the passing lane for percent time-spent-following adj. factor for the effect of passing lane on percent time-spent-following, fpl Dercent time-spent-following including passing lane, PTSFpl</pre>	rspl assing cive len length ng, Ld	- Ld - - 0.0 Lane ngth - of - -	mi mi %
<pre>Downstream length of two-lane highway within effect length of passing lane for average travel speed ength of two-lane highway downstream of effective length of the passing lane for average travel s adj. factor for the effect of passing lane on average speed, fpl verage travel speed including passing lane, ATSpl ercent free flow speed including passing lane, PFF Percent Time-Spent-Following with F pownstream length of two-lane highway within effect of passing lane for percent time-spent-following ength of two-lane highway downstream of effective the passing lane for percent time-spent-following dj. factor for the effect of passing lane on percent time-spent-following, fpl ercent time-spent-following including passing lane, PTSFpl Level of Service and Other Performance Measure</pre>	cive d, Lde speed, 1 Passing cive len ig, Lde length .ng, Ld	- Ld - - 0.0 Lane ngth - of - -	mi mi %

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	633.0
Effective width of outside lane, We	28.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	3.11
Bicycle LOS	С

- 1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific dewngrade segments are treated as level terrain.
- 2. If vi (vd or vo) >= 1,700 pc/h, terminate analysis-the LOS is F.
- 3. For the analysis direction only and for v>200 veh/h.
- 4. For the analysis direction only.
- 5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.
- * These items have been entered or edited to override calculated value

Phone: Fax: E-Mail: _____Directional Two-Lane Highway Segment Analysis______ Analyst DRR Agency/Co. CTG Agency, eetDate Performed2019-08-06Analysis Time PeriodSaturday PM Peak HourClassic Tracide Tr Silverado Trail NB Highway Silverado South of Project From/To Jurisdiction Napa Co Analysis Year Existing without Project Description Paraduxx Winery _____Input Data_____ Peak hour factor, PHF 0.88 Highway class Class 1 Shoulder width 8.0 ft % Trucks and buses 5 % 12.0ft% Trucks crawling0.01.5miTruck crawl speed0.0Level% Recreational vehicles2 Lane width 0.0 % Segment length 0.0 mi/hr Level Terrain type 8 - mi % No-passing zones 50 - % Access point density 12 Grade: Length % Up/down /mi Analysis direction volume, Vd 562 veh/h Opposing direction volume, Vo 1095 veh/h _____Average Travel Speed____ Direction Opposing (o) Analysis(d) PCE for trucks, ET 1.1* 1.0 PCE for RVs, ER 1.0* 1.0 Heavy-vehicle adj. factor,(note-5) fHV 0.995 1.000 1.00 Grade adj. factor,(note-1) fg 1.00 642 pc/h Directional flow rate, (note-2) vi 1244 pc/h Free-Flow Speed from Field Measurement: Field measured speed, (note-3) S FM mi/h Observed total demand, (note-3) V _ veh/h Estimated Free-Flow Speed: Base free-flow speed, (note-3) BFFS 55.0 mi/h Adj. for lane and shoulder width, (note-3) fLS 0.0 mi/h Adj. for access point density,(note-3) fA 3.0 mi/h Free-flow speed, FFSd 52.0 mi/h 0.6 mi/h Adjustment for no-passing zones, fnp Average travel speed, ATSd 36.8 mi/h Percent Free Flow Speed, PFFS 70.7 ŝ

Level of Service and Other Performance Measures evel of service, LOS					
DE for trucks, ET 1.0 1.0 St for RVS, ER 1.0 1.0 aavy-vehicle adjustment factor, fHV 1.00 1.00 rectional flow rate, (note-2) vi 639 pc/h 1244 pc/h see percent time-spent-following, (note-4) BPTSFd 67.6 % justment for no-passing zones, fnp 15.2 *	Direction Analysis(d)		٥n	posina	(0)
DE for RVS, ER 1.0 1.0 aavy-vehicle adjustment factor, fHV 1.00 1.00 irade adjustment factor, (note-1) fg 1.00 1.00 irrectional flow rate, (note-2) vi 639 pc/h 1244 pc/h see percent time-spent-following, (note-4) BPTSFd 67.6 % ijustment for no-passing zones, fnp 15.2 ercent time-spent-following, FSFd 72.8 %			оp		(0)
avy-vehicle adjustment factor, fWV 1.00 1.00 irectional flow rate, (note-1) fg 1.00 1.00 irectional flow rate, (note-2) vi 639 pc/h 1244 pc/h ase percent time-spent-following, (note-4) BPTSPd 67.6 % justment for no-passing zones, fnp 15.2 procent time-spent-following, PTSPd 72.8 %					
rade adjustment factor.(note-1) fg 1.00 1.00 incetional flow rate.(note-2) vi 639 pc/h 1244 pc/h ase percent time-spent-following,(note-4) BPTSPG 67.6 % jjustment for no-passing zones, fnp 15.2 recent time-spent-following, PTSPG 72.8 % Level of Service and Other Performance Measures sevel of service, LOS E blume to capacity ratio, v/C 0.38 tak 15-min vehicle-miles of travel, VMT15 239 veh-mi tak-hour vehicle-miles of travel, VMT50 843 veh-mi tak-town travel speed, CdTS 1700 veh/h trectent time-spent-following, PTSF4 (from above) 72.8 evel of service, LOSG (from above) 72.8 evel of service, LOSG (from above) 72.8 terment length of two-lane highway within effective length of two-lane highway downstream of effective length of two-lane highway downstream of effective length of two-lane highway downstream of effective length of passing lane for percent time-spent-following, Ld - mi dj. factor for the effect of passing lane, PFF5pl 0.0 % Percent Time-Spent-Following with Passing Lane					
<pre>irectional flow rate,(note-2) vi 639 pc/h 1244 pc/h ase percent time-spent-following,(note-4) BPTSFd 67.6 % justment for no-passing zones, fnp 15.2 rccent time-spent-following, PTSFd 72.8 %Level of Service and Other Performance Measures swel of service, LOS E blume to capacity ratio, v/c 0.38 task 15-min vehicle-miles of travel, VMT15 239 veh-mi sak-hour vehicle-miles of travel, VMT5 239 veh-mi sak 15-min total travel time, TT15 6.5 veh-h apacity from PTSF, CdPTSF 1700 veh/h irectional Capacity Passing Lane Analysis</pre>					
<pre>se percent time-spent-following, (note-4) BPTSFd 67.6 % djustment for no-passing zones, fnp 15.2 recent time-spent-following, PTSFd 72.8 %Level of Service and Other Performance Measures evel of service, LOS E plume to capacity ratio, v/c 0.38 cak 15-min vehicle-miles of travel, VMT15 239 veh-mi eak-hour vehicle-miles of travel, VMT50 843 veh-mi eak-hour vehicle-miles of travel, VMT60 843 veh-mi eak-hour vehicle-miles of travel, VMT60 843 veh-mi eak-hour vehicle-miles of travel, VMT60 relation veh/h paracity from ATS, CATSS 1700 veh/h apacity from ATS, CATSF 1700 veh/h irectional Capacity</pre>		<i>.</i> -			<i>(</i> -
<pre>djuatment for no-passing zones_fnp 15.2 ercent time-spent-following, PTSFd 72.8 %Level of Service and Other Performance Measures evel of service, LOS E E olume to capacity ratio, v/c 0.38 eak 15-min vehicle-miles of travel, VMT60 843 veh-mi aak-hour vehicle-miles of travel, VMT60 843 veh-mi aak 15-min total travel time, TT15 6.5 veh-h papacity from PTSF, CdPTSF 1700 veh/h irectional Capacity 1700 veh/h inectional Capacity 1700 veh/h inectional Capacity 1700 veh/h compassing Lane Analysis</pre>				1244	pc/h
ercent time-spent-following, PTSFd 72.8 %	ase percent time-spent-following,(note-4) BPTSFd	67.6	00		
Level of Service and Other Performance Measures swel of service, LOS	djustment for no-passing zones, fnp	15.2			
evel of service, LOS E plume to capacity ratio, v/c 0.38 cak 15-min vehicle-miles of travel, VMT5 239 veh-mi cak-hour vehicle-miles of travel, VMT60 843 veh-mi capacity from PTSF, CdPTSF 1700 veh/h partition passing lane fonalysis segment, Lt 1.5 mi ength of two-lane highway upstream of the passing lane, Lu - mi orget ravel speed, ATEG (from above) 72.8 evel of service, LOSG (from above) E - mi length of two-lane highway upstream of effective - mi le	ercent time-spent-following, PTSFd	72.8	010		
blume to capacity ratio, v/c 0.38 eak 15-min vehicle-miles of travel, VMT15 239 veh-mi eak hour vehicle-miles of travel, VMT60 843 veh-mi eak 15-min total travel time, TT15 6.5 veh/h apacity from ATS, CdATS 1700 veh/h apacity from ATS, CdATS 1700 veh/h irectional Capacity 1700 veh/h	Level of Service and Other Performa	ance Me	asu	res	
aak 15-min vehicle-miles of travel, VMT15 239 veh-mi aak-hour vehicle-miles of travel, VMT60 843 veh-mi aak-hour vehicle-miles of travel, VMT60 843 veh-mi aak 15-min total travel time, TT15 6.5 veh-h apacity from ATS, CdATS 1700 veh/h apacity from PTSF, CdPTSF 1700 veh/h irectional Capacity 1700 veh/h rectional Capacity 1700 veh/h Dessing Lane Analysis	evel of service, LOS	Е			
aak 15-min vehicle-miles of travel, VMT15 239 veh-mi aak-hour vehicle-miles of travel, VMT60 843 veh-mi aak-hour vehicle-miles of travel, VMT60 843 veh-mi aak 15-min total travel time, TT15 6.5 veh-h apacity from ATS, CdATS 1700 veh/h apacity from PTSF, CdPTSF 1700 veh/h irectional Capacity 1700 veh/h rectional Capacity 1700 veh/h Dessing Lane Analysis		0.38			
eak-hour vehicle-miles of travel, VMT60 843 veh-mi eak l5-min total travel time, TTI5 6.5 veh-h apacity from ATS, CdATS 1700 veh/h apacity from PTSF, CdPTSF 1700 veh/h irectional Capacity 1700 veh/h 			٦,	eh-mi	
eak 15-min total travel time, TT15 6.5 veh-h apacity from ATS, CdATS 1700 veh/h apacity from PTSF, CdPTSF 1700 veh/h irectional Capacity 1700 veh/h					
apacity from ATS, CdATS 1700 veh/h apacity from PTSF, CdPTSF 1700 veh/h irectional Capacity 1700 veh/h					
apacity from PTSF, CdPTSF 1700 veh/h irectional Capacity 1700 veh/h					
irectional Capacity 1700 veh/h					
Passing Lane Analysis					
btal length of analysis segment, Lt 1.5 mi ength of two-lane highway upstream of the passing lane, Lu - mi ength of passing lane including tapers, Lpl - mi verage travel speed, ATSd (from above) 36.8 mi/h arcent time-spent-following, PTSFd (from above) 72.8 evel of service, LOSd (from above) E	irectional Capacity	1700	v	eh/h	
ength of two-lane highway upstream of the passing lane, Lu - mi ength of passing lane including tapers, Lpl - mi verage travel speed, ATSG (from above) 36.8 mi/h ercent time-spent-following, PTSFd (from above) 72.8 evel of service, LOSd (from above) E 	Passing Lane Analysis_				
ength of two-lane highway upstream of the passing lane, Lu - mi ength of passing lane including tapers, Lpl - mi verage travel speed, ATSG (from above) 36.8 mi/h ercent time-spent-following, PTSPG (from above) 72.8 evel of service, LOSG (from above) E 	otal length of analysis segment, Lt			1.5	mi
ength of passing lane including tapers, Lpl - mi verage travel speed, ATSd (from above) 36.8 mi/h arcent time-spent-following, PTSFd (from above) 72.8 evel of service, LOSd (from above) E		lane.	Lu		
werage travel speed, ATSd (from above) 36.8 mi/h ercent time-spent-following, PTSFd (from above) 72.8 evel of service, LOSd (from above) E		/			
ercent time-spent-following, PTSFd (from above) 72.8 evel of service, LOSd (from above) E					
evel of service, LOSd (from above) E					111 / 11
Average Travel Speed with Passing Lane					
<pre>bwmstream length of two-lane highway within effective length of passing lane for average travel speed, Ld - mi ength of the passing lane for average travel speed, Ld - mi dj. factor for the effect of passing lane on average speed, fpl - verage travel speed including passing lane, ATSpl - ercent free flow speed including passing lane, PFFSpl 0.0 % Percent Time-Spent-Following with Passing Lane bwnstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde - mi ength of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld - mi dj. factor for the effect of passing lane on percent time-spent-following, Ld - mi dj. factor for the effect of passing lane on percent time-spent-following, Ld - mi ercent time-spent-following, fpl - ercent time-spent-following including passing lane, PTSFpl - % Level of Service and Other Performance Measures with Passing Laneevel of service including passing lane, LOSpl E</pre>	evel of service, LOSA (from above)			E	
<pre>length of passing lane for average travel speed, Lde - mi ength of two-lane highway downstream of effective length of the passing lane for average travel speed, Ld - mi dj. factor for the effect of passing lane on average speed, fpl</pre>	Average Travel Speed with Passi	ing Lan	.e		
<pre>length of passing lane for average travel speed, Lde - mi ength of two-lane highway downstream of effective length of the passing lane for average travel speed, Ld - mi dj. factor for the effect of passing lane on average speed, fpl</pre>	ownstream length of two-lane highway within effect	cive			
<pre>ength of two-lane highway downstream of effective length of the passing lane for average travel speed, Ld - mi dj. factor for the effect of passing lane on average speed, fpl - verage travel speed including passing lane, ATSpl - ercent free flow speed including passing lane, PFFSpl 0.0 % Percent Time-Spent-Following with Passing Lane ownstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde - mi ength of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld - mi dj. factor for the effect of passing lane on percent time-spent-following, pl - ercent time-spent-following, fpl - ercent time-spent-following including passing lane, PTSFpl - % Level of Service and Other Performance Measures with Passing Lane evel of service including passing lane, LOSpl E</pre>				_	mi
<pre>length of the passing lane for average travel speed, Ld - mi dj. factor for the effect of passing lane on average speed, fpl - verage travel speed including passing lane, ATSpl - ercent free flow speed including passing lane, PFFSpl 0.0 % Percent Time-Spent-Following with Passing Lane ownstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde - mi ength of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld - mi dj. factor for the effect of passing lane on percent time-spent-following, fpl - ercent time-spent-following including passing lane, PTSFpl - % Level of Service and Other Performance Measures with Passing Lane evel of service including passing lane, LOSpl E</pre>		x, <u>_</u>			
<pre>dj. factor for the effect of passing lane on average speed, fpl - verage travel speed including passing lane, ATSpl - ercent free flow speed including passing lane, PFFSpl 0.0 % Percent Time-Spent-Following with Passing Lane ownstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde - mi ength of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld - mi dj. factor for the effect of passing lane on percent time-spent-following, Ld - mi ercent time-spent-following, fpl - ercent time-spent-following, fpl - ercent time-spent-following - micluding passing lane, PTSFpl - % Level of Service and Other Performance Measures with Passing Lane evel of service including passing lane, LOSpl E</pre>				_	
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<pre>verage travel speed including passing lane, ATSpl - ercent free flow speed including passing lane, PFFSpl 0.0 %Percent Time-Spent-Following with Passing Lane ownstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde - mi ength of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld - mi dj. factor for the effect of passing lane on percent time-spent-following, fpl - ercent time-spent-following including passing lane, PTSFpl - %Level of Service and Other Performance Measures with Passing Lane evel of service including passing lane, LOSpl E</pre>	length of the passing lane for average travel s	speed,	Ld		mi
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Percent Time-Spent-Following with Passing Lane	length of the passing lane for average travel s dj. factor for the effect of passing lane on average speed, fpl	speed,	Ld	_	mi
<pre>ownstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde - mi ength of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld - mi dj. factor for the effect of passing lane on percent time-spent-following, fpl - ercent time-spent-following including passing lane, PTSFpl - % Level of Service and Other Performance Measures with Passing Lane evel of service including passing lane, LOSpl E</pre>	<pre>length of the passing lane for average travel s dj. factor for the effect of passing lane on average speed, fpl verage travel speed including passing lane, ATSpl</pre>		Ld	-	
of passing lane for percent time-spent-following, Lde - mi ength of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld - mi dj. factor for the effect of passing lane on percent time-spent-following, fpl - ercent time-spent-following including passing lane, PTSFpl - % Level of Service and Other Performance Measures with Passing Lane evel of service including passing lane, LOSpl E	length of the passing lane for average travel s dj. factor for the effect of passing lane on average speed, fpl verage travel speed including passing lane, ATSpl		Ld	-	
of passing lane for percent time-spent-following, Lde - mi ength of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld - mi dj. factor for the effect of passing lane on percent time-spent-following, fpl - ercent time-spent-following including passing lane, PTSFpl - % Level of Service and Other Performance Measures with Passing Lane evel of service including passing lane, LOSpl E	<pre>length of the passing lane for average travel s dj. factor for the effect of passing lane on average speed, fpl verage travel speed including passing lane, ATSpl ercent free flow speed including passing lane, PFF</pre>	Spl		- - 0.0	ક
<pre>ength of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld - mi dj. factor for the effect of passing lane on percent time-spent-following, fpl - ercent time-spent-following including passing lane, PTSFpl - %Level of Service and Other Performance Measures with Passing Lane evel of service including passing lane, LOSpl E</pre>	<pre>length of the passing lane for average travel s dj. factor for the effect of passing lane on average speed, fpl verage travel speed including passing lane, ATSpl ercent free flow speed including passing lane, PFFPercent Time-Spent-Following with F</pre>	7Spl Passing	La	- 0.0 ne	રુ
<pre>the passing lane for percent time-spent-following, Ld - mi dj. factor for the effect of passing lane on percent time-spent-following, fpl - ercent time-spent-following including passing lane, PTSFpl - %Level of Service and Other Performance Measures with Passing Lane evel of service including passing lane, LOSpl E</pre>	<pre>length of the passing lane for average travel s dj. factor for the effect of passing lane on average speed, fpl verage travel speed including passing lane, ATSpl ercent free flow speed including passing lane, PFFPercent Time-Spent-Following with F ownstream length of two-lane highway within effect</pre>	Spl Passing	La ngt	- 0.0 ne	ି
<pre>dj. factor for the effect of passing lane on percent time-spent-following, fpl - ercent time-spent-following including passing lane, PTSFpl - % Level of Service and Other Performance Measures with Passing Lane evel of service including passing lane, LOSpl E</pre>	<pre>length of the passing lane for average travel s dj. factor for the effect of passing lane on average speed, fpl verage travel speed including passing lane, ATSpl ercent free flow speed including passing lane, PFFPercent Time-Spent-Following with F ownstream length of two-lane highway within effect of passing lane for percent time-spent-following</pre>	Spl Passing tive le	La ngt	0.0 neh 	ି
on percent time-spent-following, fpl - ercent time-spent-following including passing lane, PTSFpl - %Level of Service and Other Performance Measures with Passing Lane evel of service including passing lane, LOSpl E	<pre>length of the passing lane for average travel s dj. factor for the effect of passing lane on average speed, fpl verage travel speed including passing lane, ATSpl ercent free flow speed including passing lane, PFFPercent Time-Spent-Following with F ownstream length of two-lane highway within effect of passing lane for percent time-spent-followir ength of two-lane highway downstream of effective</pre>	Spl Passing tive leng, Lde length	La ngt	0.0 neh 	%
ercent time-spent-following including passing lane, PTSFpl - % Level of Service and Other Performance Measures with Passing Lane evel of service including passing lane, LOSpl E	<pre>length of the passing lane for average travel s dj. factor for the effect of passing lane on average speed, fpl verage travel speed including passing lane, ATSpl ercent free flow speed including passing lane, PFFPercent Time-Spent-Following with F ownstream length of two-lane highway within effect of passing lane for percent time-spent-followir ength of two-lane highway downstream of effective the passing lane for percent time-spent-followir</pre>	Spl Passing tive leng, Lde length	La ngt	0.0 neh 	%
including passing lane, PTSFpl - % Level of Service and Other Performance Measures with Passing Lane evel of service including passing lane, LOSpl E	<pre>length of the passing lane for average travel s dj. factor for the effect of passing lane on average speed, fpl verage travel speed including passing lane, ATSpl ercent free flow speed including passing lane, PFFPercent Time-Spent-Following with F ownstream length of two-lane highway within effect of passing lane for percent time-spent-followir ength of two-lane highway downstream of effective the passing lane for percent time-spent-followid j. factor for the effect of passing lane</pre>	Spl Passing tive leng, Lde length	La ngt	0.0 neh 	%
Level of Service and Other Performance Measures with Passing Lane	<pre>length of the passing lane for average travel s dj. factor for the effect of passing lane on average speed, fpl verage travel speed including passing lane, ATSpl ercent free flow speed including passing lane, PFFPercent Time-Spent-Following with F ownstream length of two-lane highway within effect of passing lane for percent time-spent-followir ength of two-lane highway downstream of effective the passing lane for percent time-spent-followid dj. factor for the effect of passing lane on percent time-spent-following, fpl</pre>	Spl Passing tive leng, Lde length	La ngt	0.0 neh 	%
evel of service including passing lane, LOSpl E	<pre>length of the passing lane for average travel s dj. factor for the effect of passing lane on average speed, fpl verage travel speed including passing lane, ATSpl ercent free flow speed including passing lane, PFFPercent Time-Spent-Following with F ownstream length of two-lane highway within effect of passing lane for percent time-spent-followir ength of two-lane highway downstream of effective the passing lane for percent time-spent-followid dj. factor for the effect of passing lane on percent time-spent-following, fpl ercent time-spent-following</pre>	Spl Passing tive leng, Lde length	La ngt	0.0 neh 	% mi mi
	<pre>length of the passing lane for average travel s dj. factor for the effect of passing lane on average speed, fpl verage travel speed including passing lane, ATSpl ercent free flow speed including passing lane, PFFPercent Time-Spent-Following with F ownstream length of two-lane highway within effect of passing lane for percent time-spent-followir ength of two-lane highway downstream of effective the passing lane for percent time-spent-followid dj. factor for the effect of passing lane on percent time-spent-following, fpl ercent time-spent-following</pre>	Spl Passing tive leng, Lde length	La ngt	0.0 neh 	% mi mi
	<pre>length of the passing lane for average travel s dj. factor for the effect of passing lane on average speed, fpl verage travel speed including passing lane, ATSpl ercent free flow speed including passing lane, PFFPercent Time-Spent-Following with F ownstream length of two-lane highway within effect of passing lane for percent time-spent-followir ength of two-lane highway downstream of effective the passing lane for percent time-spent-followid dj. factor for the effect of passing lane on percent time-spent-following, fpl ercent time-spent-following including passing lane, PTSFpl</pre>	Spl Passing tive leng, Lde length ing, Ld	La ngt of	- 0.0 ne h - - -	% mi mi %
	<pre>length of the passing lane for average travel s dj. factor for the effect of passing lane on average speed, fpl verage travel speed including passing lane, ATSpl ercent free flow speed including passing lane, PFFPercent Time-Spent-Following with F ownstream length of two-lane highway within effect of passing lane for percent time-spent-followir ength of two-lane highway downstream of effective the passing lane for percent time-spent-followid dj. factor for the effect of passing lane on percent time-spent-following, fpl ercent time-spent-following including passing lane, PTSFplLevel of Service and Other Performance Measure </pre>	Spl Passing tive leng, Lde length ing, Ld	La ngt of	- 0.0 ne h - - -	% mi mi %
	<pre>length of the passing lane for average travel s dj. factor for the effect of passing lane on average speed, fpl verage travel speed including passing lane, ATSpl ercent free flow speed including passing lane, PFFPercent Time-Spent-Following with F ownstream length of two-lane highway within effect of passing lane for percent time-spent-followir ength of two-lane highway downstream of effective the passing lane for percent time-spent-followid j. factor for the effect of passing lane on percent time-spent-following, fpl ercent time-spent-following including passing lane, PTSFplLevel of Service and Other Performance Measur evel of service including passing lane, LOSpl</pre>	Spl Passing tive leng, Lde length ing, Ld	La ngt of h P	- 0.0 ne h - - assing	% mi mi %

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	638.6
Effective width of outside lane, We	28.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	3.11
Bicycle LOS	С

- 1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific dewngrade segments are treated as level terrain.
- 2. If vi (vd or vo) >= 1,700 pc/h, terminate analysis-the LOS is F.
- 3. For the analysis direction only and for v>200 veh/h.
- 4. For the analysis direction only.
- 5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.
- * These items have been entered or edited to override calculated value

Phone: Fax: E-Mail: _____Directional Two-Lane Highway Segment Analysis______ Analyst DRR Agency/Co. CTG Agency, eetDate Performed2019-08-06Analysis Time PeriodSaturday PM Peak HourClassic Time PeriodSaturday PM Peak Hour Silverado Trail SB Highway Silverado North of Project From/To Jurisdiction Napa Co Analysis Year Existing w-o Project Description Paraduxx Winery _____Input Data_____ Peak hour factor, PHF 0.88 Highway class Class 1 Shoulder width 8.0 ft % Trucks and buses 5 % 12.0ft% Trucks crawling1.5miTruck crawl speedLevel% Recreational vehi 0.0 Lane width % Segment length 0.0 mi/hr Level % Recreational vehicles 2 Terrain type 8 % No-passing zones 70 Access point density 9 - mi - % Grade: Length % Up/down /mi Analysis direction volume, Vd 1088 veh/h Opposing direction volume, Vo 557 veh/h _____Average Travel Speed____ Direction Opposing (o) Analysis(d) PCE for trucks, ET 1.1* 1.1 PCE for RVs, ER 1.0* 1.0 Heavy-vehicle adj. factor,(note-5) fHV 0.995 0.995 Grade adj. factor,(note-1) fg 1.00 1.00 1243 pc/h Directional flow rate, (note-2) vi 636 pc/h Free-Flow Speed from Field Measurement: Field measured speed, (note-3) S FM mi/h Observed total demand, (note-3) V _ veh/h Estimated Free-Flow Speed: Base free-flow speed, (note-3) BFFS 55.0 mi/h Adj. for lane and shoulder width, (note-3) fLS 0.0 mi/h Adj. for access point density,(note-3) fA 2.3 mi/h Free-flow speed, FFSd 52.8 mi/h mi/h Adjustment for no-passing zones, fnp 1.5 Average travel speed, ATSd 36.6 mi/h Percent Free Flow Speed, PFFS 69.4 %

Percent Time-S	Spent-Follow:	ing			
Direction A	Analysis(d)		raO	posina	(0)
PCE for trucks, ET	1.0		011	1.0	
PCE for RVs, ER	1.0			1.0	
Heavy-vehicle adjustment factor, fHV	1.000			1.000)
Grade adjustment factor, (note-1) fg	1.00			1.00	
Directional flow rate,(note-2) vi		c/h		633	pc/h
Base percent time-spent-following, (note	—		00		1 - /
Adjustment for no-passing zones, fnp		16.5	•		
Percent time-spent-following, PTSFd		91.6	00		
Level of Service and Ot	her Performa	ance Me	easur	res	
		_			
Level of service, LOS		E			
Volume to capacity ratio, v/c		0.73			
Peak 15-min vehicle-miles of travel, VM		464		eh-mi	
Peak-hour vehicle-miles of travel, VMT6	50	1632		eh-mi	
Peak 15-min total travel time, TT15		12.7	ve	eh-h	
Capacity from ATS, CdATS		1700	ve	eh/h	
Capacity from PTSF, CdPTSF		1700	ve	eh/h	
Directional Capacity		1700	ve	eh/h	
Passing La	ane Analysis_				
Total longth of analysis segment It				1.5	mi
Total length of analysis segment, Lt	the measing	1	т		mi mi
Length of two-lane highway upstream of		lane,	Lu		mi
Length of passing lane including tapers	-			-	mi
Average travel speed, ATSd (from above)				36.6	mi/h
Percent time-spent-following, PTSFd (fr	com above)			91.6	
Level of service, LOSd (from above)				E	
Average Travel Speed	d with Pass	ing Lan	ie		
Downstream length of two-lane highway w	vithin effect	ive			
length of passing lane for average				_	mi
Length of two-lane highway downstream of	_	a, Eac			
length of the passing lane for aver		speed	ЪЛ	_	mi
Adj. factor for the effect of passing 1		speed,	шα		
on average speed, fpl	alle				
				_	
Average travel speed including passing		101		-	0.
Percent free flow speed including passi	ng lane, PF	espi		0.0	00
Percent Time-Spent-Foll	owing with B	Passing	g Lar	1e	
Downstream length of two-lane highway w	vithin effect	tive le	enqtł	ı	
of passing lane for percent time-sp			-	_	mi
Length of two-lane highway downstream of					
the passing lane for percent time-s		-		_	mi
Adj. factor for the effect of passing]	-	,0	-		
on percent time-spent-following, fr				_	
Percent time-spent-following	~ <u>-</u>				
including passing lane, PTSFpl				-	010
Level of Service and Other Perfor	mance Measu	res wit	h Pa	assing	Lane
				_	
Level of service including passing lane	e, LOSpl	Ε		_	
Peak 15-min total travel time, TT15		-	ve	eh-h	
		2			
Bicycle Leve	el of Service	e			

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	1236.4
Effective width of outside lane, We	28.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	3.45
Bicycle LOS	С

- 1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific dewngrade segments are treated as level terrain.
- 2. If vi (vd or vo) >= 1,700 pc/h, terminate analysis-the LOS is F.
- 3. For the analysis direction only and for v>200 veh/h.
- 4. For the analysis direction only.
- 5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.
- * These items have been entered or edited to override calculated value

Phone: Fax: E-Mail: _____Directional Two-Lane Highway Segment Analysis______ Analyst DRR Agency/Co. CTG Date Performed 2019-08-06 Analysis Time Period Saturday PM Peak Hour Silverado Trail SB Highway Silverado South of Project From/To Jurisdiction Napa Co Analysis Year Existing w-o Project Description Paraduxx Winery _____Input Data_____ Peak hour factor, PHF 0.88 Highway class Class 1 Shoulder width 8.0 ft % Trucks and buses 5 % 12.0ft% Trucks crawling0.8miTruck crawl speedLevel% Recreational vehi Lane width 0.0 % Segment length 0.0 mi/hr % Recreational vehicles 2 Terrain type % No-passing zones 100 8 Grade: Length - mi 8 00 Access point density 12 Up/down _ /mi Analysis direction volume, Vd 1095 veh/h Opposing direction volume, Vo 562 veh/h _____Average Travel Speed____ Direction Opposing (o) Analysis(d) PCE for trucks, ET 1.1* 1.1 PCE for RVs, ER 1.0* 1.0 Heavy-vehicle adj. factor,(note-5) fHV 0.995 0.995 Grade adj. factor,(note-1) fg 1.00 1.00 1251 pc/h Directional flow rate, (note-2) vi 642 pc/h Free-Flow Speed from Field Measurement: Field measured speed, (note-3) S FM mi/h Observed total demand, (note-3) V _ veh/h Estimated Free-Flow Speed: Base free-flow speed, (note-3) BFFS 55.0 mi/h Adj. for lane and shoulder width, (note-3) fLS 0.0 mi/h Adj. for access point density,(note-3) fA 3.0 mi/h Free-flow speed, FFSd 52.0 mi/h mi/h Adjustment for no-passing zones, fnp 1.8 Average travel speed, ATSd 35.5 mi/h Percent Free Flow Speed, PFFS 68.3 %

Direction Analysis(d)		ດດ	posing	(0)
PCE for trucks, ET 1.0		011	1.0	()
PCE for RVs, ER 1.0			1.0	
Heavy-vehicle adjustment factor, fHV 1.000			1.000)
Grade adjustment factor, (note-1) fg 1.00			1.00	
	/h		639	pc/h
Base percent time-spent-following,(note-4) BPTSFd		00	001	F 0 / 11
	17.3	0		
	92.0	00		
Level of Service and Other Performa		asu	res	
	E			
	0.74			
	249		eh-mi	
•	876		eh-mi	
	7.0	ve	eh-h	
	1700	ve	eh/h	
Capacity from PTSF, CdPTSF	1700	ve	eh/h	
Directional Capacity	1700	ve	eh/h	
Passing Lane Analysis_				
Potal length of analyzing gogment It			0.8	mi
Total length of analysis segment, Lt	1	т		
Length of two-lane highway upstream of the passing	lane,	Lu		mi
Length of passing lane including tapers, Lpl			-	mi
Average travel speed, ATSd (from above)			35.5	mi/h
Percent time-spent-following, PTSFd (from above)			92.0	
Level of service, LOSd (from above)			Ε	
Average Travel Speed with Passi	ng Lar	ne		
Downstream length of two-lane highway within effect	ive			
length of passing lane for average travel speed			_	mi
Length of two-lane highway downstream of effective	,			
length of the passing lane for average travel s Adj. factor for the effect of passing lane	peed,	Ld	-	mi
an arranged anald fml			-	
on average speed, fpl				
Average travel speed including passing lane, ATSpl	Cml		-	0_
Average travel speed including passing lane, ATSpl	Spl		0.0	<u>0</u>
Average travel speed including passing lane, ATSpl	_	g Lai		
Average travel speed including passing lane, ATSpl Percent free flow speed including passing lane, PFF Percent Time-Spent-Following with Pa	assing		ne	
Average travel speed including passing lane, ATSpl Percent free flow speed including passing lane, PFF Percent Time-Spent-Following with Pa	assing ive le	engtl	ne	
Average travel speed including passing lane, ATSpl Percent free flow speed including passing lane, PFF Percent Time-Spent-Following with P- Downstream length of two-lane highway within effect of passing lane for percent time-spent-following	assing ive le g, Lde	engtl e	ne	
Average travel speed including passing lane, ATSpl Percent free flow speed including passing lane, PFF Percent Time-Spent-Following with P Downstream length of two-lane highway within effect of passing lane for percent time-spent-following Gength of two-lane highway downstream of effective	assing ive le g, Lde length	engtl e n of	ne	
Average travel speed including passing lane, ATSpl Percent free flow speed including passing lane, PFF Percent Time-Spent-Following with P Downstream length of two-lane highway within effect of passing lane for percent time-spent-following Length of two-lane highway downstream of effective the passing lane for percent time-spent-following	assing ive le g, Lde length	engtl e n of	ne	mi
Average travel speed including passing lane, ATSpl Percent free flow speed including passing lane, PFF Percent Time-Spent-Following with P Downstream length of two-lane highway within effect of passing lane for percent time-spent-following Length of two-lane highway downstream of effective the passing lane for percent time-spent-following adj. factor for the effect of passing lane	assing ive le g, Lde length	engtl e n of	ne	mi
Average travel speed including passing lane, ATSpl Percent free flow speed including passing lane, PFF Percent Time-Spent-Following with P. Downstream length of two-lane highway within effect of passing lane for percent time-spent-following Length of two-lane highway downstream of effective the passing lane for percent time-spent-following Adj. factor for the effect of passing lane on percent time-spent-following, fpl	assing ive le g, Lde length	engtl e n of	ne	mi
Average travel speed including passing lane, ATSpl Percent free flow speed including passing lane, PFF Percent Time-Spent-Following with Pro- Downstream length of two-lane highway within effect of passing lane for percent time-spent-following Length of two-lane highway downstream of effective the passing lane for percent time-spent-following Adj. factor for the effect of passing lane on percent time-spent-following, fpl	assing ive le g, Lde length	engtl e n of	ne	mi
Average travel speed including passing lane, ATSpl Percent free flow speed including passing lane, PFF Percent Time-Spent-Following with Pro- Cownstream length of two-lane highway within effect of passing lane for percent time-spent-following Length of two-lane highway downstream of effective the passing lane for percent time-spent-following Adj. factor for the effect of passing lane on percent time-spent-following, fpl Percent time-spent-following	assing ive le g, Lde length ng, Ld	engtl e 1 of 1	ne - - -	mi mi %
Average travel speed including passing lane, ATSpl Percent free flow speed including passing lane, PFF Percent Time-Spent-Following with P. Downstream length of two-lane highway within effect of passing lane for percent time-spent-following Length of two-lane highway downstream of effective the passing lane for percent time-spent-following Adj. factor for the effect of passing lane on percent time-spent-following, fpl Percent time-spent-following including passing lane, PTSFpl Level of Service and Other Performance Measur	assing ive le g, Lde length ng, Ld es wit	engtl e 1 of 1	ne - - -	mi mi %
Average travel speed including passing lane, ATSpl Percent free flow speed including passing lane, PFF Percent Time-Spent-Following with P Downstream length of two-lane highway within effect of passing lane for percent time-spent-following Length of two-lane highway downstream of effective the passing lane for percent time-spent-following Adj. factor for the effect of passing lane on percent time-spent-following, fpl Percent time-spent-following including passing lane, PTSFpl Level of Service and Other Performance Measur Level of service including passing lane, LOSpl	assing ive le g, Lde length ng, Ld	engtl i of i	ne - - assing	mi mi %
Average travel speed including passing lane, ATSpl Percent free flow speed including passing lane, PFF Percent Time-Spent-Following with P Downstream length of two-lane highway within effect of passing lane for percent time-spent-following Length of two-lane highway downstream of effective the passing lane for percent time-spent-following Adj. factor for the effect of passing lane on percent time-spent-following, fpl Percent time-spent-following including passing lane, PTSFpl Level of Service and Other Performance Measur	assing ive le g, Lde length ng, Ld es wit	engtl i of i	ne - - -	mi mi %

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	1244.3
Effective width of outside lane, We	28.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	3.45
Bicycle LOS	С

- 1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific dewngrade segments are treated as level terrain.
- 2. If vi (vd or vo) >= 1,700 pc/h, terminate analysis-the LOS is F.
- 3. For the analysis direction only and for v>200 veh/h.
- 4. For the analysis direction only.
- 5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.
- * These items have been entered or edited to override calculated value

Phone: Fax: E-Mail: _____Directional Two-Lane Highway Segment Analysis______ Analyst DRR Agency/Co. CTG Date Performed2019-08-06Analysis Time PeriodFriday PM Peak Hour Silverado Trail NB Highway Silverado North of Project From/To Jurisdiction Napa Co Analysis Year 2020 without Project Description Paraduxx Winery _____Input Data_____ Peak hour factor, PHF 0.97 Highway class Class 1 Shoulder width 8.0 ft % Trucks and buses 5 % 12.0ft% Trucks crawling0.01.5miTruck crawl speed0.0Level% Recreational vehicles2 Lane width 0.0 % 0.0 Segment length mi/hr Level Terrain type 8 - mi % No-passing zones 85 - % Access point density 9 Grade: Length % Up/down /mi Analysis direction volume, Vd 565 veh/h Opposing direction volume, Vo 1325 veh/h _____Average Travel Speed____ Direction Analysis(d) Opposing (o) PCE for trucks, ET 1.1* 1.0 PCE for RVs, ER 1.0* 1.0 Heavy-vehicle adj. factor,(note-5) fHV 0.995 1.000 1.00 Grade adj. factor,(note-1) fg 1.00 585 pc/h Directional flow rate, (note-2) vi 1366 pc/h Free-Flow Speed from Field Measurement: Field measured speed, (note-3) S FM mi/h _ Observed total demand, (note-3) V veh/h Estimated Free-Flow Speed: Base free-flow speed, (note-3) BFFS 55.0 mi/h Adj. for lane and shoulder width, (note-3) fLS 0.0 mi/h Adj. for access point density,(note-3) fA 2.3 mi/h Free-flow speed, FFSd 52.8 mi/h mi/h Adjustment for no-passing zones, fnp 0.8 Average travel speed, ATSd 36.8 mi/h Percent Free Flow Speed, PFFS 69.8 %

Percent Time-	-Spent-Follow	ing		
Direction PCE for trucks, ET	Analysis(d) 1.0	QD	posing (1.0	0)
PCE for RVs, ER	1.0		1.0	
Heavy-vehicle adjustment factor, fHV Grade adjustment factor,(note-1) fg	1.000 1.00		1.000 1.00	
Directional flow rate, (note-2) vi		c/h	1366	pc/h
Base percent time-spent-following, (not	—			1
Adjustment for no-passing zones, fnp		14.8		
Percent time-spent-following, PTSFd		70.0 %		
Level of Service and (Other Perform	ance Measu	res	
Level of service, LOS		Е		
<i>J</i> olume to capacity ratio, v/c		0.34		
Peak 15-min vehicle-miles of travel, v	VMT15	218 v	eh-mi	
Peak-hour vehicle-miles of travel, VM	Г 60		eh-mi	
Peak 15-min total travel time, TT15			eh-h	
Capacity from ATS, CdATS			eh/h	
Capacity from PTSF, CdPTSF			eh/h	
Directional Capacity		1700 v	eh/h	
Passing 1	Lane Analysis			
Fotal length of analysis segment, Lt			1.5	mi
length of two-lane highway upstream or	f the passing	lane, Lu	_	mi
ength of passing lane including tape:	rs, Lpl		-	mi
Average travel speed, ATSd (from above			36.8	mi/h
Percent time-spent-following, PTSFd (:	from above)		70.0	
Level of service, LOSd (from above)			E	
Average Travel Spec	ed with Pass	ing Lane		
Downstream length of two-lane highway	within effec	tive		
length of passing lane for average			_	mi
Length of two-lane highway downstream	—			
length of the passing lane for ave	erage travel	speed, Ld	-	mi
Adj. factor for the effect of passing	lane			
on average speed, fpl			-	
Average travel speed including passing		_	-	
Percent free flow speed including pass	sing lane, PF	FSpl	0.0	010
Percent Time-Spent-Fo	llowing with	Passing La	ne	
Downstream length of two-lane highway	within effec	tive lengt	h	
of passing lane for percent time-		-	-	mi
Length of two-lane highway downstream				
the passing lane for percent time			-	mi
Adj. factor for the effect of passing	lane			
on percent time-spent-following, :	fpl		-	
Percent time-spent-following				
including passing lane, PTSFpl			-	00
Level of Service and Other Perfo	ormance Measu	res with P	assing L	ane
Level of service including passing la	ne, LOSpl	E		
Peak 15-min total travel time, TT15	, TOOPT		eh-h	
		·		
Bicycle Lev	vel of Servic	e		

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	582.5
Effective width of outside lane, We	28.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	3.06
Bicycle LOS	С

- 1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific dewngrade segments are treated as level terrain.
- 2. If vi (vd or vo) >= 1,700 pc/h, terminate analysis-the LOS is F.
- 3. For the analysis direction only and for v>200 veh/h.
- 4. For the analysis direction only.
- 5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.
- * These items have been entered or edited to override calculated value

Phone: Fax: E-Mail: _____Directional Two-Lane Highway Segment Analysis______ Analyst DRR Agency/Co. CTG Date Performed 2019-08-06 Analysis Time Period Friday PM Peak Hour Silverado Trail NB Highway Silverado South of Project From/To Jurisdiction Napa Co Analysis Year 2020 without Project Description Paraduxx Winery _____Input Data_____ Peak hour factor, PHF 0.97 Highway class Class 1 Shoulder width 8.0 ft % Trucks and buses 5 % 12.0ft% Trucks crawling0.00.8miTruck crawl speed0.0Level% Recreational vehicles2 Lane width 0.0 % Segment length 0.0 mi/hr Terrain type 8 - mi % No-passing zones 50 - % Access point density 12 Grade: Length % Up/down /mi Analysis direction volume, Vd 566 veh/h Opposing direction volume, Vo 1336 veh/h _____Average Travel Speed____ Direction Analysis(d) Opposing (o) PCE for trucks, ET 1.1* 1.0 PCE for RVs, ER 1.0* 1.0 Heavy-vehicle adj. factor,(note-5) fHV 0.995 1.000 1.00 Grade adj. factor, (note-1) fg 1.00 586 pc/h Directional flow rate, (note-2) vi 1377 pc/h Free-Flow Speed from Field Measurement: Field measured speed, (note-3) S FM mi/h _ Observed total demand, (note-3) V veh/h Estimated Free-Flow Speed: Base free-flow speed, (note-3) BFFS 55.0 mi/h Adj. for lane and shoulder width, (note-3) fLS 0.0 mi/h Adj. for access point density,(note-3) fA 3.0 mi/h Free-flow speed, FFSd 52.0 mi/h 0.6 mi/h Adjustment for no-passing zones, fnp Average travel speed, ATSd 36.2 mi/h Percent Free Flow Speed, PFFS 69.6 %

Direction Analysis(d)		Opposing	a (o)
PCE for trucks, ET 1.0		1.0	, (0)
CE for RVs, ER 1.0		1.0	
eavy-vehicle adjustment factor, fHV 1.000		1.00	
rade adjustment factor, (note-1) fg 1.00		1.00	
	c/h	1377	/ pc/h
ase percent time-spent-following,(note-4) BPTSFd	66.1	00	
djustment for no-passing zones, fnp	12.9		
ercent time-spent-following, PTSFd	69.9	00	
Level of Service and Other Perform	ance Me	asures	
evel of service, LOS	Е		
olume to capacity ratio, v/c	0.34		
eak 15-min vehicle-miles of travel, VMT15	117	veh-mi	
eak-hour vehicle-miles of travel, VMT60	453	veh-mi	
eak 15-min total travel time, TT15	455 3.2	ven-mi veh-h	
apacity from ATS, CdATS	1700	veh/h	
apacity from PTSF, CdPTSF	1700	veh/h	
irectional Capacity	1700	veh/h	
Passing Lane Analysis			
otal length of analysis segment, Lt		0.8	mi
ength of two-lane highway upstream of the passing	lane.		mi
ength of passing lane including tapers, Lpl	201107	_	mi
verage travel speed, ATSd (from above)		36.2	mi/h
		69.9	111 / 11
ercent time-spent-following, PTSFd (from above)			
evel of service, LOSd (from above)		E	
Average Travel Speed with Pass	ing Lan	e	
		e	
ownstream length of two-lane highway within effec	tive		
ownstream length of two-lane highway within effec length of passing lane for average travel spee	tive d, Lde		
ownstream length of two-lane highway within effec length of passing lane for average travel spee ength of two-lane highway downstream of effective	tive d, Lde	-	mi
ownstream length of two-lane highway within effec length of passing lane for average travel spee ength of two-lane highway downstream of effective length of the passing lane for average travel	tive d, Lde	-	
ownstream length of two-lane highway within effec length of passing lane for average travel spee ength of two-lane highway downstream of effective length of the passing lane for average travel dj. factor for the effect of passing lane	tive d, Lde	-	mi
ownstream length of two-lane highway within effec length of passing lane for average travel spee ength of two-lane highway downstream of effective length of the passing lane for average travel dj. factor for the effect of passing lane on average speed, fpl	tive d, Lde speed, 1	-	mi
ownstream length of two-lane highway within effec length of passing lane for average travel spee ength of two-lane highway downstream of effective length of the passing lane for average travel dj. factor for the effect of passing lane on average speed, fpl verage travel speed including passing lane, ATSpl	tive d, Lde speed,	- Ld - - -	mi mi
ownstream length of two-lane highway within effec length of passing lane for average travel spee ength of two-lane highway downstream of effective length of the passing lane for average travel dj. factor for the effect of passing lane on average speed, fpl verage travel speed including passing lane, ATSpl	tive d, Lde speed,	-	mi
ownstream length of two-lane highway within effec length of passing lane for average travel spee ength of two-lane highway downstream of effective length of the passing lane for average travel dj. factor for the effect of passing lane on average speed, fpl verage travel speed including passing lane, ATSpl	tive d, Lde speed, f FSpl	- Ld - - - 0.0	mi mi %
ownstream length of two-lane highway within effec length of passing lane for average travel spee ength of two-lane highway downstream of effective length of the passing lane for average travel dj. factor for the effect of passing lane on average speed, fpl verage travel speed including passing lane, ATSpl ercent free flow speed including passing lane, PF	tive d, Lde speed, FSpl Passing	- Ld - - 0.0 Lane	mi mi %
<pre>ownstream length of two-lane highway within effec length of passing lane for average travel spee ength of two-lane highway downstream of effective length of the passing lane for average travel dj. factor for the effect of passing lane on average speed, fpl verage travel speed including passing lane, ATSpl ercent free flow speed including passing lane, PF Percent Time-Spent-Following with ownstream length of two-lane highway within effec</pre>	tive d, Lde speed, FSpl Passing tive le	- Ld - - 0.0 Lane	mi mi %
<pre>ownstream length of two-lane highway within effec length of passing lane for average travel spee ength of two-lane highway downstream of effective length of the passing lane for average travel dj. factor for the effect of passing lane on average speed, fpl verage travel speed including passing lane, ATSpl ercent free flow speed including passing lane, PF Percent Time-Spent-Following with ownstream length of two-lane highway within effec of passing lane for percent time-spent-followi</pre>	tive d, Lde speed, FSpl Passing tive le ng, Lde	- Ld - - 0.0 Lane ngth -	mi mi %
ownstream length of two-lane highway within effect length of passing lane for average travel spee ength of two-lane highway downstream of effective length of the passing lane for average travel dj. factor for the effect of passing lane on average speed, fpl verage travel speed including passing lane, ATSpl ercent free flow speed including passing lane, PF Percent Time-Spent-Following with ownstream length of two-lane highway within effect of passing lane for percent time-spent-followi ength of two-lane highway downstream of effective	tive d, Lde speed, FSpl Passing tive le ng, Lde length	- Ld - - 0.0 Lane ngth _ of	mi mi %
ownstream length of two-lane highway within effect length of passing lane for average travel spee ength of two-lane highway downstream of effective length of the passing lane for average travel dj. factor for the effect of passing lane on average speed, fpl verage travel speed including passing lane, ATSpl ercent free flow speed including passing lane, PF Percent Time-Spent-Following with ownstream length of two-lane highway within effect of passing lane for percent time-spent-followi ength of two-lane highway downstream of effective the passing lane for percent time-spent-followi	tive d, Lde speed, FSpl Passing tive le ng, Lde length	- Ld - - 0.0 Lane ngth _ of	mi mi %
ownstream length of two-lane highway within effect length of passing lane for average travel spee ength of two-lane highway downstream of effective length of the passing lane for average travel dj. factor for the effect of passing lane on average speed, fpl verage travel speed including passing lane, ATSpl ercent free flow speed including passing lane, PF Percent Time-Spent-Following with ownstream length of two-lane highway within effect of passing lane for percent time-spent-followi ength of two-lane highway downstream of effective the passing lane for percent time-spent-follow dj. factor for the effect of passing lane	tive d, Lde speed, FSpl Passing tive le ng, Lde length	- Ld - - 0.0 Lane ngth _ of	mi mi %
ownstream length of two-lane highway within effect length of passing lane for average travel spee ength of two-lane highway downstream of effective length of the passing lane for average travel dj. factor for the effect of passing lane on average speed, fpl verage travel speed including passing lane, ATSpl ercent free flow speed including passing lane, PF 	tive d, Lde speed, FSpl Passing tive le ng, Lde length	- Ld - - 0.0 Lane ngth _ of	mi mi %
ownstream length of two-lane highway within effect length of passing lane for average travel spee ength of two-lane highway downstream of effective length of the passing lane for average travel dj. factor for the effect of passing lane on average speed, fpl verage travel speed including passing lane, ATSpl ercent free flow speed including passing lane, PF 	tive d, Lde speed, FSpl Passing tive le ng, Lde length	- Ld - - 0.0 Lane ngth _ of	mi mi % mi mi
<pre>ownstream length of two-lane highway within effec length of passing lane for average travel spee ength of two-lane highway downstream of effective length of the passing lane for average travel dj. factor for the effect of passing lane on average speed, fpl verage travel speed including passing lane, ATSpl ercent free flow speed including passing lane, PF </pre>	tive d, Lde speed, FSpl Passing tive le ng, Lde length	- Ld - - 0.0 Lane ngth _ of	mi mi %
ownstream length of two-lane highway within effect length of passing lane for average travel spee ength of two-lane highway downstream of effective length of the passing lane for average travel dj. factor for the effect of passing lane on average speed, fpl verage travel speed including passing lane, ATSpl ercent free flow speed including passing lane, PF 	tive d, Lde speed, FSpl Passing tive le ng, Lde length ing, Ld	- Ld - - 0.0 Lane ngth - of - -	mi mi % mi %
<pre>ownstream length of two-lane highway within effec length of passing lane for average travel spee ength of two-lane highway downstream of effective length of the passing lane for average travel dj. factor for the effect of passing lane on average speed, fpl verage travel speed including passing lane, ATSpl ercent free flow speed including passing lane, PF Percent Time-Spent-Following with ownstream length of two-lane highway within effec of passing lane for percent time-spent-followi ength of two-lane highway downstream of effective the passing lane for percent time-spent-follow dj. factor for the effect of passing lane on percent time-spent-following, fpl ercent time-spent-following including passing lane, PTSFpl Level of Service and Other Performance Measu</pre>	tive d, Lde speed, FSpl Passing tive le ng, Lde length ing, Ld	- Ld - - 0.0 Lane ngth - of - -	mi mi % mi %
ownstream length of two-lane highway within effect length of passing lane for average travel spee ength of two-lane highway downstream of effective length of the passing lane for average travel dj. factor for the effect of passing lane on average speed, fpl verage travel speed including passing lane, ATSpl ercent free flow speed including passing lane, PF 	tive d, Lde speed, FSpl Passing tive le ng, Lde length ing, Ld	- Ld - - 0.0 Lane ngth - of - - - h Passing	mi mi % mi %
ownstream length of two-lane highway within effect length of passing lane for average travel spee ength of two-lane highway downstream of effective length of the passing lane for average travel dj. factor for the effect of passing lane on average speed, fpl verage travel speed including passing lane, ATSpl ercent free flow speed including passing lane, PF Percent Time-Spent-Following with ownstream length of two-lane highway within effect of passing lane for percent time-spent-followi ength of two-lane highway downstream of effective the passing lane for percent time-spent-follow dj. factor for the effect of passing lane on percent time-spent-following, fpl ercent time-spent-following including passing lane, PTSFpl Level of Service and Other Performance Measu	tive d, Lde speed, FSpl Passing tive le ng, Lde length ing, Ld	- Ld - - 0.0 Lane ngth - of - -	mi mi % mi %

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	583.5
Effective width of outside lane, We	28.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	3.06
Bicycle LOS	С

- 1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific dewngrade segments are treated as level terrain.
- 2. If vi (vd or vo) >= 1,700 pc/h, terminate analysis-the LOS is F.
- 3. For the analysis direction only and for v>200 veh/h.
- 4. For the analysis direction only.
- 5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.
- * These items have been entered or edited to override calculated value

Phone: Fax: E-Mail: _____Directional Two-Lane Highway Segment Analysis______ Analyst DRR Agency/Co. CTG Date Performed 2019-08-06 Analysis Time Period Friday PM Peak Hour Silverado Trail SB Highway Silverado North of Project From/To Jurisdiction Napa Co Analysis Year 2020 w-o Project Description Paraduxx Winery _____Input Data_____ Peak hour factor, PHF 0.97 Highway class Class 1 Shoulder width 8.0 ft % Trucks and buses 5 % 8.0 12 12.0 ft % Trucks crawing 1.5 mi Truck crawl speed Polling % Recreational vehi Lane width 0.0 % Segment length 0.0 mi/hr % Rolling % Recreational vehicles 2 Terrain type % No-passing zones 70 Grade: Length - mi % Access point density 9 Up/down _ 00 /mi Analysis direction volume, Vd 1325 veh/h Opposing direction volume, Vo 565 veh/h _____Average Travel Speed____ Direction Analysis(d) Opposing (o) PCE for trucks, ET 1.1* 1.7 PCE for RVs, ER 1.0* 1.1 Heavy-vehicle adj. factor,(note-5) fHV 0.995 0.964 Grade adj. factor, (note-1) fg 1.00 0.97 1373 pc/h Directional flow rate, (note-2) vi 623 pc/h Free-Flow Speed from Field Measurement: Field measured speed, (note-3) S FM mi/h Observed total demand, (note-3) V _ veh/h Estimated Free-Flow Speed: Base free-flow speed, (note-3) BFFS 55.0 mi/h Adj. for lane and shoulder width, (note-3) fLS 0.0 mi/h Adj. for access point density,(note-3) fA 2.3 mi/h Free-flow speed, FFSd 52.8 mi/h mi/h Adjustment for no-passing zones, fnp 1.6 Average travel speed, ATSd 35.7 mi/h Percent Free Flow Speed, PFFS 67.7 ŝ

	ng			
Direction Analysis(d)		וס0	posing	(0)
PCE for trucks, ET 1.0		- 1 1	1.2	
PCE for RVs, ER 1.0			1.0	
Heavy-vehicle adjustment factor, fHV 1.000			0.99	0
Grade adjustment factor, (note-1) fg 1.00			0.97	
	/h		606	pc/h
Base percent time-spent-following,(note-4) BPTSFd		00		L - /
	14.0	Ū		
	92.3	olo		
Level of Service and Other Performa	nce Me	easu	res	
Level of service, LOS	Е			
	0.81			
	512		eh-mi	
		•		
	1988		eh-mi ob b	
	14.3		eh-h ah/h	
	1671		eh/h	
	1700		eh/h	
Directional Capacity	1671	V	eh/h	
Passing Lane Analysis_				
otal length of analysis segment, Lt			1.5	mi
length of two-lane highway upstream of the passing	lane	T.11		mi
ength of passing lane including tapers, Lpl	ranc,	Ца	_	mi
verage travel speed, ATSd (from above)			35.7	mi/h
Percent time-spent-following, PTSFd (from above)			92.3	111 / 11
Level of service, LOSd (from above)			92.5 E	
Average Travel Speed with Passi	ng Lar	ne		
Downstream length of two-lane highway within effect				
length of passing lane for average travel speed	, Lde		-	mi
Sength of two-lane highway downstream of effective				
length of the passing lane for average travel s	peed,	Ld	-	mi
dj. factor for the effect of passing lane				
on average speed, fpl			-	
verage travel speed including passing lane, ATSpl			-	
Percent free flow speed including passing lane, PFF	Spl		0.0	010
		g Lai	ne	
Percent Time-Spent-Following with P	assing			
	_	engtl	h	
Downstream length of two-lane highway within effect	ive le	-	h _	mi
ownstream length of two-lane highway within effect of passing lane for percent time-spent-followin	ive le g, Lde	9	-	mi
ownstream length of two-lane highway within effect of passing lane for percent time-spent-followin length of two-lane highway downstream of effective	ive le g, Lde length	e n of	-	mi mi
ownstream length of two-lane highway within effect of passing lane for percent time-spent-followin length of two-lane highway downstream of effective the passing lane for percent time-spent-followi	ive le g, Lde length	e n of	-	
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Downstream length of two-lane highway within effect of passing lane for percent time-spent-followin Length of two-lane highway downstream of effective the passing lane for percent time-spent-followi Adj. factor for the effect of passing lane on percent time-spent-following, fpl	ive le g, Lde length	e n of	-	
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Downstream length of two-lane highway within effect of passing lane for percent time-spent-followin Length of two-lane highway downstream of effective the passing lane for percent time-spent-followi Adj. factor for the effect of passing lane on percent time-spent-following, fpl Percent time-spent-following including passing lane, PTSFpl Level of Service and Other Performance Measur	ive le g, Lde length ng, Lo	n of	-	mi %
Downstream length of two-lane highway within effect of passing lane for percent time-spent-followin Length of two-lane highway downstream of effective the passing lane for percent time-spent-followi Adj. factor for the effect of passing lane on percent time-spent-following, fpl Percent time-spent-following including passing lane, PTSFpl Level of Service and Other Performance Measur Level of service including passing lane, LOSpl	ive le g, Lde length ng, Lo	e of l	- - assing	mi %
Downstream length of two-lane highway within effect of passing lane for percent time-spent-followin Length of two-lane highway downstream of effective the passing lane for percent time-spent-followi Adj. factor for the effect of passing lane on percent time-spent-following, fpl Percent time-spent-following including passing lane, PTSFpl Level of Service and Other Performance Measur	ive le g, Lde length ng, Ld	e of l	-	mi %

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	1366.0
Effective width of outside lane, We	28.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	3.50
Bicycle LOS	С

- 1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific dewngrade segments are treated as level terrain.
- 2. If vi (vd or vo) >= 1,700 pc/h, terminate analysis-the LOS is F.
- 3. For the analysis direction only and for v>200 veh/h.
- 4. For the analysis direction only.
- 5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.
- * These items have been entered or edited to override calculated value

Phone: Fax: E-Mail: _____Directional Two-Lane Highway Segment Analysis______ Analyst DRR Agency/Co. CTG Date Performed 2019-08-06 Analysis Time Period Friday PM Peak Hour Silverado Trail SB Highway Silverado North of Project From/To Jurisdiction Napa Co Analysis Year 2020 without Project Description Paraduxx Winery _____Input Data_____ Peak hour factor, PHF 0.97 Highway class Class 1 Shoulder width 8.0 ft % Trucks and buses 5 % 8.0 10 12.0 ft % Trucks crawleng 0.8 mi Truck crawl speed Recreational vehi cripg zones Lane width 0.0 % Segment length 0.0 mi/hr % Recreational vehicles 2 Terrain type 8 mi % No-passing zones 100 % Access point density 12 Grade: Length – mi 8 Up/down _ /mi Analysis direction volume, Vd 1336 veh/h Opposing direction volume, Vo 566 veh/h _____Average Travel Speed____ Direction Opposing (o) Analysis(d) PCE for trucks, ET 1.1* 1.1 PCE for RVs, ER 1.0* 1.0 Heavy-vehicle adj. factor,(note-5) fHV 0.995 0.995 Grade adj. factor,(note-1) fg 1.00 1.00 1384 pc/h Directional flow rate, (note-2) vi 586 pc/h Free-Flow Speed from Field Measurement: Field measured speed, (note-3) S FM mi/h Observed total demand, (note-3) V _ veh/h Estimated Free-Flow Speed: Base free-flow speed, (note-3) BFFS 55.0 mi/h Adj. for lane and shoulder width, (note-3) fLS 0.0 mi/h Adj. for access point density,(note-3) fA 3.0 mi/h Free-flow speed, FFSd 52.0 mi/h 2.0 mi/h Adjustment for no-passing zones, fnp Average travel speed, ATSd 34.8 mi/h Percent Free Flow Speed, PFFS 66.8 %

	0			
Direction Analysis(d)		ıa0	posina	(0)
PCE for trucks, ET 1.0		011	1.0	()
PCE for RVs, ER 1.0			1.0	
Heavy-vehicle adjustment factor, fHV 1.000			1.000	
Grade adjustment factor, (note-1) fg 1.00			1.00	
	c/h		584	pc/h
Base percent time-spent-following,(note-4) BPTSFd		00	001	F 0 / 11
Adjustment for no-passing zones, fnp	14.9	0		
Percent time-spent-following, PTSFd	93.5	00		
Level of Service and Other Perform	ance Me	easu	res	
Level of service, LOS	E			
Volume to capacity ratio, v/c	0.81			
Peak 15-min vehicle-miles of travel, VMT15	275	•	eh-mi	
Peak-hour vehicle-miles of travel, VMT60	1069		eh-mi	
Peak 15-min total travel time, TT15	7.9		eh-h	
Capacity from ATS, CdATS	1700	V	eh/h	
Capacity from PTSF, CdPTSF	1700	V	eh/h	
Directional Capacity	1700	V	eh/h	
Passing Lane Analysis				
lotal longth of analyzing gogmont. It			0.8	mi
Cotal length of analysis segment, Lt	lana	т.,		
ength of two-lane highway upstream of the passing	lane,	ьu		mi
ength of passing lane including tapers, Lpl			-	mi
Average travel speed, ATSd (from above)			34.8	mi/h
Percent time-spent-following, PTSFd (from above)			93.5	
Level of service, LOSd (from above)			E	
Average Travel Speed with Pass	ing Lar	ne		
Downstream length of two-lane highway within effec	tive			
length of passing lane for average travel spee	d, Lde		-	mi
Length of two-lane highway downstream of effective				
length of the passing lane for average travel		Ld	-	mi
14 Frankright Frankling (Frankright Strangender 1997)				
Adj. Lactor for the effect of passing lane				
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on average speed, fpl Average travel speed including passing lane, ATSpl Percent free flow speed including passing lane, PF Percent Time-Spent-Following with	FSpl Passing		ne	-
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on average speed, fpl average travel speed including passing lane, ATSpl Percent free flow speed including passing lane, PF Percent Time-Spent-Following with oownstream length of two-lane highway within effec of passing lane for percent time-spent-followi the passing lane for percent time-spent-follow the passing lane for percent time-spent-follow dj. factor for the effect of passing lane	FSpl Passing tive leng, Lde length	engtl e n of	ne	 mi
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on average speed, fpl Average travel speed including passing lane, ATSpl Dercent free flow speed including passing lane, PF Percent Time-Spent-Following with Downstream length of two-lane highway within effec of passing lane for percent time-spent-following length of two-lane highway downstream of effective the passing lane for percent time-spent-follow adj. factor for the effect of passing lane on percent time-spent-following, fpl Dercent time-spent-following	FSpl Passing tive leng, Lde length	engtl e n of	ne	 mi
on average speed, fpl Average travel speed including passing lane, ATSpl Percent free flow speed including passing lane, PF Percent Time-Spent-Following with Downstream length of two-lane highway within effec of passing lane for percent time-spent-followi Length of two-lane highway downstream of effective the passing lane for percent time-spent-follow Adj. factor for the effect of passing lane on percent time-spent-following, fpl	FSpl Passing tive leng, Lde length	engtl e n of	ne	 mi
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Average travel speed including passing lane, ATSpl Percent free flow speed including passing lane, PF Percent Time-Spent-Following with Downstream length of two-lane highway within effec of passing lane for percent time-spent-followi Length of two-lane highway downstream of effective the passing lane for percent time-spent-follow Adj. factor for the effect of passing lane on percent time-spent-following, fpl Percent time-spent-following including passing lane, PTSFpl Level of Service and Other Performance Measu	FSpl Passing tive lengt ng, Lde lengt ing, Ld res wit	engtl e 1 of 1	ne h - - -	mi mi %
on average speed, fpl Average travel speed including passing lane, ATSpl Percent free flow speed including passing lane, PF Percent Time-Spent-Following with Oownstream length of two-lane highway within effec of passing lane for percent time-spent-followi Length of two-lane highway downstream of effective the passing lane for percent time-spent-follow Adj. factor for the effect of passing lane on percent time-spent-following, fpl Percent time-spent-following including passing lane, PTSFpl Level of Service and Other Performance Measu	FSpl Passing tive leng, Lde length ing, Ld	engtl i of i	ne h - - assing	mi mi %
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Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	1377.3
Effective width of outside lane, We	28.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	3.50
Bicycle LOS	С

- 1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific dewngrade segments are treated as level terrain.
- 2. If vi (vd or vo) >= 1,700 pc/h, terminate analysis-the LOS is F.
- 3. For the analysis direction only and for v>200 veh/h.
- 4. For the analysis direction only.
- 5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.
- * These items have been entered or edited to override calculated value

Phone: Fax: E-Mail: _____Directional Two-Lane Highway Segment Analysis______ Analyst DRR Agency/Co. CTG Date Performed2019-08-06Analysis Time PeriodSaturday PM Peak Hour Silverado Trail NB Highway Silverado North of Project From/To Jurisdiction Napa Co Analysis Year 2020 without Project Description Paraduxx Winery _____Input Data_____ Peak hour factor, PHF 0.88 Highway class Class 1 Shoulder width 8.0 ft % Trucks and buses 5 % 12.0ft% Trucks crawling0.01.5miTruck crawl speed0.0Level% Recreational vehicles2 0.0 Lane width % 0.0 Segment length mi/hr Level Terrain type % - mi % No-passing zones 85 - % Access point density 9 Grade: Length % Up/down /mi Analysis direction volume, Vd 579 veh/h Opposing direction volume, Vo 1128 veh/h _____Average Travel Speed____ Direction Analysis(d) Opposing (o) PCE for trucks, ET 1.1* 1.0 PCE for RVs, ER 1.0* 1.0 Heavy-vehicle adj. factor,(note-5) fHV 0.995 1.000 Grade adj. factor,(note-1) fg 1.00 1.00 661 pc/h Directional flow rate, (note-2) vi 1282 pc/h Free-Flow Speed from Field Measurement: Field measured speed, (note-3) S FM mi/h _ Observed total demand, (note-3) V veh/h Estimated Free-Flow Speed: Base free-flow speed, (note-3) BFFS 55.0 mi/h Adj. for lane and shoulder width, (note-3) fLS 0.0 mi/h Adj. for access point density,(note-3) fA 2.3 mi/h Free-flow speed, FFSd 52.8 mi/h mi/h Adjustment for no-passing zones, fnp 0.8 Average travel speed, ATSd 36.8 mi/h Percent Free Flow Speed, PFFS 69.8 %

	ing			
Direction Analysis(d)		ימ	posing	(0)
PCE for trucks, ET 1.0		011	1.0	(0)
PCE for RVs, ER 1.0			1.0	
Heavy-vehicle adjustment factor, fHV 1.000			1.000	
Grade adjustment factor, (note-1) fg 1.00			1.00	
	c/h		1282	pc/h
Base percent time-spent-following,(note-4) BPTSFd		00	1202	20/11
Adjustment for no-passing zones, fnp	16.1	0		
Percent time-spent-following, PTSFd	74.4	00		
Level of Service and Other Perform	ance Me	easu	res	
Level of service, LOS	E			
Volume to capacity ratio, v/c	L 0.39			
			ah mi	
Peak 15-min vehicle-miles of travel, VMT15	247		eh-mi	
Peak-hour vehicle-miles of travel, VMT60	869		eh-mi	
Peak 15-min total travel time, TT15	6.7		eh-h	
Capacity from ATS, CdATS	1700		eh/h	
Capacity from PTSF, CdPTSF	1700		eh/h	
Directional Capacity	1700	V	eh/h	
Passing Lane Analysis				
otal length of analysis segment, Lt			1.5	mi
ength of two-lane highway upstream of the passing	lane.	T.11	_	mi
ength of passing lane including tapers, Lpl	ranc,	Цų	_	mi
verage travel speed, ATSd (from above)			36.8	mi/h
Percent time-spent-following, PTSFd (from above)			74.4	111 / 11
Level of service, LOSd (from above)			, г. г Е	
Average Travel Speed with Pass	ing Lan	ie		
Downstream length of two-lane highway within effec	tive			
length of passing lane for average travel spee	d, Lde		-	mi
ength of two-lane highway downstream of effective				
length of the passing lane for average travel		Ld	-	mi
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verage travel speed including passing lane, ATSpl			-	
Percent free flow speed including passing lane, PF			0.0	00
I 51 5 1	-			
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Percent Time-Spent-Following with	-			
ownstream length of two-lane highway within effec	tive le	engtl	n	
ownstream length of two-lane highway within effec of passing lane for percent time-spent-followi	tive le ng, Lde	engtl e	n _	mi
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ownstream length of two-lane highway within effec of passing lane for percent time-spent-followi ength of two-lane highway downstream of effective the passing lane for percent time-spent-follow	tive le ng, Lde length	engtl e n of	n - -	mi mi
ownstream length of two-lane highway within effec of passing lane for percent time-spent-followi ength of two-lane highway downstream of effective the passing lane for percent time-spent-follow	tive le ng, Lde length	engtl e n of	n _ _	
ownstream length of two-lane highway within effec of passing lane for percent time-spent-followi ength of two-lane highway downstream of effective the passing lane for percent time-spent-follow	tive le ng, Lde length	engtl e n of	n - -	
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Downstream length of two-lane highway within effec of passing lane for percent time-spent-following length of two-lane highway downstream of effective the passing lane for percent time-spent-follow adj. factor for the effect of passing lane on percent time-spent-following, fpl	tive le ng, Lde length	engtl e n of	n - - -	
Downstream length of two-lane highway within effec of passing lane for percent time-spent-followin length of two-lane highway downstream of effective the passing lane for percent time-spent-follow adj. factor for the effect of passing lane on percent time-spent-following, fpl Percent time-spent-following	tive le ng, Lde length ing, Lo	engtl e 1 of 1	-	mi %
Downstream length of two-lane highway within effec of passing lane for percent time-spent-followi Length of two-lane highway downstream of effective the passing lane for percent time-spent-follow Adj. factor for the effect of passing lane on percent time-spent-following, fpl Dercent time-spent-following including passing lane, PTSFpl Level of Service and Other Performance Measu	tive le ng, Lde length ing, Ld	engtl e 1 of 1	-	mi %
<pre>Downstream length of two-lane highway within effec of passing lane for percent time-spent-followi length of two-lane highway downstream of effective the passing lane for percent time-spent-follow adj. factor for the effect of passing lane on percent time-spent-following, fpl Dercent time-spent-following including passing lane, PTSFpl Level of Service and Other Performance Measu Level of service including passing lane, LOSpl</pre>	tive le ng, Lde length ing, Lo	engtl i of l	- - assing	mi %
<pre>pownstream length of two-lane highway within effec of passing lane for percent time-spent-followi ength of two-lane highway downstream of effective the passing lane for percent time-spent-follow dj. factor for the effect of passing lane on percent time-spent-following, fpl percent time-spent-following including passing lane, PTSFpl Level of Service and Other Performance Measu</pre>	tive le ng, Lde length ing, Ld	engtl i of l	-	mi %

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	658.0
Effective width of outside lane, We	28.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	3.13
Bicycle LOS	С

- 1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific dewngrade segments are treated as level terrain.
- 2. If vi (vd or vo) >= 1,700 pc/h, terminate analysis-the LOS is F.
- 3. For the analysis direction only and for v>200 veh/h.
- 4. For the analysis direction only.
- 5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.
- * These items have been entered or edited to override calculated value

Phone: Fax: E-Mail: _____Directional Two-Lane Highway Segment Analysis______ Analyst DRR Agency/Co. CTG Date Performed2019-08-06Analysis Time PeriodSaturday PM Peak Hour Silverado Trail NB Highway Silverado South of Project From/To Jurisdiction Napa Co Analysis Year 2020 without Project Description Paraduxx Winery _____Input Data_____ Peak hour factor, PHF 0.88 Highway class Class 1 Shoulder width 8.0 ft % Trucks and buses 5 % 12.0ft% Trucks crawling0.01.5miTruck crawl speed0.0Level% Recreational vehicles2 Lane width 0.0 % Segment length 0.0 mi/hr Level Terrain type 8 % No-passing zones 50 Access point density 12 - mi - % Grade: Length % Up/down /mi Analysis direction volume, Vd 584 veh/h Opposing direction volume, Vo 1135 veh/h _____Average Travel Speed____ Direction Opposing (o) Analysis(d) PCE for trucks, ET 1.1* 1.0 PCE for RVs, ER 1.0* 1.0 Heavy-vehicle adj. factor,(note-5) fHV 0.995 1.000 1.00 Grade adj. factor, (note-1) fg 1.00 667 pc/h Directional flow rate, (note-2) vi 1290 pc/h Free-Flow Speed from Field Measurement: Field measured speed, (note-3) S FM mi/h _ Observed total demand, (note-3) V veh/h Estimated Free-Flow Speed: Base free-flow speed, (note-3) BFFS 55.0 mi/h Adj. for lane and shoulder width, (note-3) fLS 0.0 mi/h Adj. for access point density,(note-3) fA 3.0 mi/h Free-flow speed, FFSd 52.0 mi/h mi/h Adjustment for no-passing zones, fnp 0.6 Average travel speed, ATSd 36.2 mi/h Percent Free Flow Speed, PFFS 69.7 %

	pent-Follow	±119			
Direction An	nalysis(d)		001	posing	(0)
PCE for trucks, ET	1.0		OPI	1.0	(0)
CE for RVs, ER	1.0			1.0	
					`
eavy-vehicle adjustment factor, fHV				1.000)
rade adjustment factor, (note-1) fg	1.00			1.00	
irectional flow rate,(note-2) vi	-	c/h		1290	pc/h
ase percent time-spent-following,(note-	-4) BPTSFd	69.2	00		
djustment for no-passing zones, fnp		14.4			
ercent time-spent-following, PTSFd		74.1	010		
Level of Service and Oth	ler Perform	ance Me	easu	res	
evel of service, LOS		Е			
olume to capacity ratio, v/c		0.39			
eak 15-min vehicle-miles of travel, VM	r15	249	37	eh-mi	
eak-hour vehicle-miles of travel, VMT60		876		eh-mi	
eak 15-min total travel time, TT15	<i>,</i>	6.9		eh-h	
apacity from ATS, CdATS		1700		eh/h	
apacity from PTSF, CdPTSF		1700		eh/h	
irectional Capacity		1700	V	eh/h	
Passing Lar	ne Analysis				
otal length of analysis segment, Lt				1.5	mi
ength of two-lane highway upstream of t	the passing	lane,	Lu	_	mi
ength of passing lane including tapers		,		_	mi
verage travel speed, ATSd (from above)				36.2	mi/h
ercent time-spent-following, PTSFd (from above)				74.1	111 / 11
	above)				
evel of service, LOSd (from above)				Ε	
Average Travel Speed	with Pass	ing Lar	ie		
Average Travel Speed			1e		
ownstream length of two-lane highway w:	ithin effec	tive			
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ownstream length of two-lane highway wi length of passing lane for average t ength of two-lane highway downstream of length of the passing lane for avera	ithin effec cravel spee effective age travel	tive d, Lde		-	
ownstream length of two-lane highway wi length of passing lane for average t ength of two-lane highway downstream of length of the passing lane for avera dj. factor for the effect of passing la	ithin effec cravel spee effective age travel	tive d, Lde		-	mi
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ownstream length of two-lane highway will length of passing lane for average to ength of two-lane highway downstream of length of the passing lane for avera dj. factor for the effect of passing la on average speed, fpl verage travel speed including passing 1	ithin effec cravel spee effective age travel ane lane, ATSpl	tive d, Lde speed,		- - -	mi mi
ownstream length of two-lane highway will length of passing lane for average to ength of two-lane highway downstream of length of the passing lane for avera dj. factor for the effect of passing la on average speed, fpl verage travel speed including passing 1	ithin effec cravel spee effective age travel ane lane, ATSpl	tive d, Lde speed,		-	mi
ownstream length of two-lane highway will length of passing lane for average to ength of two-lane highway downstream of length of the passing lane for avera dj. factor for the effect of passing la on average speed, fpl verage travel speed including passing 1	ithin effec cravel spee effective age travel ane lane, ATSpl ng lane, PF	tive d, Lde speed, FSpl	Ld	- - - 0.0	mi mi %
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<pre>ownstream length of two-lane highway wi length of passing lane for average of ength of two-lane highway downstream of length of the passing lane for average dj. factor for the effect of passing lane on average speed, fpl verage travel speed including passing is ercent free flow speed including passing </pre>	ithin effec cravel spee effective age travel ane lane, ATSpl ng lane, PF owing with ithin effec ent-followi effective pent-follow ane	tive d, Lde speed, FSpl Passing tive le ng, Lde length ing, Ld	Ld g Lan engtl h of h	- - 0.0 ne h - - -	mi mi % mi %
<pre>ownstream length of two-lane highway wi length of passing lane for average of ength of two-lane highway downstream of length of the passing lane for avera dj. factor for the effect of passing lane on average speed, fpl verage travel speed including passing is ercent free flow speed including passing is Percent Time-Spent-Follo ownstream length of two-lane highway wi of passing lane for percent time-spe ength of two-lane highway downstream of the passing lane for percent time-spe dj. factor for the effect of passing lane on percent time-spent-following, fpi ercent time-spent-following including passing lane, PTSFpl</pre>	ithin effec cravel spee effective age travel ane lane, ATSpl ng lane, PF owing with ithin effec ent-followi effective pent-follow ane l	tive d, Lde speed, FSpl Passing tive le ng, Lde length ing, Ld	Ld g Lan engtl h of h	- - 0.0 ne h - - -	mi mi % mi %
ownstream length of two-lane highway will length of passing lane for average of ength of two-lane highway downstream of length of the passing lane for average dj. factor for the effect of passing lane on average speed, fpl verage travel speed including passing is ercent free flow speed including passing is 	ithin effec cravel spee effective age travel ane lane, ATSpl ng lane, PF owing with ithin effec ent-followi effective pent-follow ane l	tive d, Lde speed, FSpl Passing tive le ng, Lde length ing, Ld res wit	Ld g Langtl i of t	- - 0.0 ne h - - -	mi mi % mi %

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	663.6
Effective width of outside lane, We	28.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	3.13
Bicycle LOS	С

- 1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific dewngrade segments are treated as level terrain.
- 2. If vi (vd or vo) >= 1,700 pc/h, terminate analysis-the LOS is F.
- 3. For the analysis direction only and for v>200 veh/h.
- 4. For the analysis direction only.
- 5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.
- * These items have been entered or edited to override calculated value

Phone: Fax: E-Mail: _____Directional Two-Lane Highway Segment Analysis______ Analyst DRR Agency/Co. CTG Date Performed 2019-08-06 Analysis Time Period Saturday PM Peak Hour Silverado Trail SB Highway Silverado North of Project From/To Jurisdiction Napa Co Analysis Year 2020 w-o Project Description Paraduxx Winery _____Input Data_____ Peak hour factor, PHF 0.88 Highway class Class 1 Shoulder width 8.0 ft % Trucks and buses 5 % 12.0ft% Trucks crawling1.5miTruck crawl speedLevel% Recreational vehi 0.0 Lane width % Segment length 0.0 mi/hr Level % % Recreational vehicles 2 Terrain type - mi % No-passing zones 70 - % Access point density 9 Grade: Length % Up/down /mi Analysis direction volume, Vd 1128 veh/h Opposing direction volume, Vo 579 veh/h _____Average Travel Speed____ Direction Opposing (o) Analysis(d) PCE for trucks, ET 1.1* 1.1 PCE for RVs, ER 1.0* 1.0 Heavy-vehicle adj. factor,(note-5) fHV 0.995 0.995 Grade adj. factor, (note-1) fg 1.00 1.00 1288 pc/h Directional flow rate, (note-2) vi 661 pc/h Free-Flow Speed from Field Measurement: Field measured speed, (note-3) S FM mi/h Observed total demand, (note-3) V _ veh/h Estimated Free-Flow Speed: Base free-flow speed, (note-3) BFFS 55.0 mi/h Adj. for lane and shoulder width, (note-3) fLS 0.0 mi/h Adj. for access point density,(note-3) fA 2.3 mi/h Free-flow speed, FFSd 52.8 mi/h mi/h Adjustment for no-passing zones, fnp 1.5 Average travel speed, ATSd 36.2 mi/h Percent Free Flow Speed, PFFS 68.5 %

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	E 0.76 481 1692 13.3 1700 1700 1700 lane, ing Land tive d, Lde speed, FSpl Passing tive longt ing, Ld lengt ing, Ld	E 0.76 481 v 1692 v 13.3 v 1700 v 1700 v 1700 v lane, Lu ing Lane tive d, Lde speed, Ld FSpl Passing Lat tive lengt ng, Lde length of ing, Ld res with Passing E	0.76 481 veh-mi 1692 veh-mi 13.3 veh-h 1700 veh/h 1700 veh/h 1700 veh/h 1700 veh/h 1.5 lane, Lu - 36.2 91.7 E ing Lane tive d, Lde - speed, Ld - - FSpl 0.0 Passing Lane tive length ng, Lde - length of ing, Ld - - res with Passing

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	1281.8
Effective width of outside lane, We	28.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	3.46
Bicycle LOS	С

- 1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific dewngrade segments are treated as level terrain.
- 2. If vi (vd or vo) >= 1,700 pc/h, terminate analysis-the LOS is F.
- 3. For the analysis direction only and for v>200 veh/h.
- 4. For the analysis direction only.
- 5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.
- * These items have been entered or edited to override calculated value

Phone: Fax: E-Mail: _____Directional Two-Lane Highway Segment Analysis______ Analyst DRR Agency/Co. CTG Date Performed 2019-08-06 Analysis Time Period Saturday PM Peak Hour Silverado Trail SB Highway Silverado South of Project From/To Jurisdiction Napa Co Analysis Year 2020 w-o Project Description Paraduxx Winery _____Input Data_____ Peak hour factor, PHF 0.88 Highway class Class 1 Shoulder width 8.0 ft % Trucks and buses 5 % 8.0 12.0 ft % Trucks crawlespeed 0.8 mi Truck crawl speed % Recreational vehi Lane width 0.0 % Segment length 0.0 mi/hr % Recreational vehicles 2 Terrain type 8 % No-passing zones 100 Access point density 12 Grade: Length – mi 8 00 Up/down _ /mi Analysis direction volume, Vd 1135 veh/h Opposing direction volume, Vo 584 veh/h _____Average Travel Speed____ Direction Opposing (o) Analysis(d) PCE for trucks, ET 1.1* 1.1 PCE for RVs, ER 1.0* 1.0 Heavy-vehicle adj. factor,(note-5) fHV 0.995 0.995 Grade adj. factor, (note-1) fg 1.00 1.00 1296 pc/h Directional flow rate, (note-2) vi 667 pc/h Free-Flow Speed from Field Measurement: Field measured speed, (note-3) S FM mi/h Observed total demand, (note-3) V _ veh/h Estimated Free-Flow Speed: Base free-flow speed, (note-3) BFFS 55.0 mi/h Adj. for lane and shoulder width, (note-3) fLS 0.0 mi/h Adj. for access point density,(note-3) fA 3.0 mi/h Free-flow speed, FFSd 52.0 mi/h 1.7 mi/h Adjustment for no-passing zones, fnp Average travel speed, ATSd 35.1 mi/h Percent Free Flow Speed, PFFS 67.4 %

Direction Analysis(d)		٥nr	posing	(0)
PCE for trucks, ET 1.0		001	1.0	(0)
PCE for RVs, ER 1.0			1.0	
Heavy-vehicle adjustment factor, fHV 1.000			1.000	
Grade adjustment factor, (note-1) fg 1.00	/ 1		1.00	/1
	c/h	•	664	pc/h
Base percent time-spent-following,(note-4) BPTSFd		00		
djustment for no-passing zones, fnp	16.3			
Percent time-spent-following, PTSFd	93.0	010		
Level of Service and Other Performa	ance Me	easui	res	
evel of service, LOS	E			
olume to capacity ratio, v/c	0.76			
eak 15-min vehicle-miles of travel, VMT15	258	ve	eh-mi	
eak-hour vehicle-miles of travel, VMT60	908		eh-mi	
eak 15-min total travel time, TT15	908 7.4		eh-h	
apacity from ATS, CdATS	1700		eh/h	
apacity from PTSF, CdPTSF	1700		eh/h	
irectional Capacity	1700	Ve	eh/h	
Passing Lane Analysis_				
otal length of analysis segment, Lt			0.8	mi
ength of two-lane highway upstream of the passing	lane	T.11	_	mi
ength of passing lane including tapers, Lpl	ranc,	Ца	_	mi
verage travel speed, ATSd (from above)			35.1	mi/h
				111 / 11
Percent time-spent-following, PTSFd (from above)			93.0	
Level of service, LOSd (from above)			E	
Average Travel Speed with Passi	ing Lan	le		
ownstream length of two-lane highway within effect	ive			
length of passing lane for average travel speed			_	mi
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ength of two-lane highway downstream of effective		т -1		
ength of two-lane highway downstream of effective length of the passing lane for average travel s		Ld	-	mi
ength of two-lane highway downstream of effective length of the passing lane for average travel s dj. factor for the effect of passing lane		Ld	-	mi
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<pre>dength of two-lane highway downstream of effective length of the passing lane for average travel s dj. factor for the effect of passing lane on average speed, fpl verage travel speed including passing lane, ATSpl ercent free flow speed including passing lane, PFF Percent Time-Spent-Following with F</pre>	Speed, Spl Passing	l Lai	- - 0.0 ne	8
<pre>ength of two-lane highway downstream of effective length of the passing lane for average travel s dj. factor for the effect of passing lane on average speed, fpl verage travel speed including passing lane, ATSpl ercent free flow speed including passing lane, PFF Percent Time-Spent-Following with F ownstream length of two-lane highway within effect</pre>	Speed, Spl Passing	g Lar	- - 0.0 ne	8
<pre>ength of two-lane highway downstream of effective length of the passing lane for average travel s dj. factor for the effect of passing lane on average speed, fpl verage travel speed including passing lane, ATSpl ercent free flow speed including passing lane, PFF Percent Time-Spent-Following with F ownstream length of two-lane highway within effect of passing lane for percent time-spent-followir</pre>	Speed, Spl Passing Live le	g Lar engtl	- - 0.0 ne	8
<pre>ength of two-lane highway downstream of effective length of the passing lane for average travel s dj. factor for the effect of passing lane on average speed, fpl verage travel speed including passing lane, ATSpl ercent free flow speed including passing lane, PFF Percent Time-Spent-Following with F ownstream length of two-lane highway within effect of passing lane for percent time-spent-followir ength of two-lane highway downstream of effective</pre>	Speed, Spl Passing tive leng, Lde length	f Lar engtl e i of	- - 0.0 ne	%
<pre>ength of two-lane highway downstream of effective length of the passing lane for average travel s dj. factor for the effect of passing lane on average speed, fpl verage travel speed including passing lane, ATSpl ercent free flow speed including passing lane, PFF Percent Time-Spent-Following with F ownstream length of two-lane highway within effect of passing lane for percent time-spent-followir ength of two-lane highway downstream of effective the passing lane for percent time-spent-followir</pre>	Speed, Spl Passing tive leng, Lde length	f Lar engtl e i of	- - 0.0 ne	१
<pre>ength of two-lane highway downstream of effective length of the passing lane for average travel s dj. factor for the effect of passing lane on average speed, fpl verage travel speed including passing lane, ATSpl ercent free flow speed including passing lane, PFF Percent Time-Spent-Following with F ownstream length of two-lane highway within effect of passing lane for percent time-spent-followir ength of two-lane highway downstream of effective the passing lane for percent time-spent-followir</pre>	Speed, Spl Passing tive leng, Lde length	f Lar engtl e i of	- - 0.0 ne	%
<pre>ength of two-lane highway downstream of effective length of the passing lane for average travel s dj. factor for the effect of passing lane on average speed, fpl verage travel speed including passing lane, ATSpl ercent free flow speed including passing lane, PFF Percent Time-Spent-Following with F ownstream length of two-lane highway within effect of passing lane for percent time-spent-followir ength of two-lane highway downstream of effective the passing lane for percent time-spent-followir</pre>	Speed, Spl Passing tive leng, Lde length	f Lar engtl e i of	- - 0.0 ne	%
<pre>ength of two-lane highway downstream of effective length of the passing lane for average travel s dj. factor for the effect of passing lane on average speed, fpl verage travel speed including passing lane, ATSpl ercent free flow speed including passing lane, PFF Percent Time-Spent-Following with F ownstream length of two-lane highway within effect of passing lane for percent time-spent-followir ength of two-lane highway downstream of effective the passing lane for percent time-spent-followid dj. factor for the effect of passing lane on percent time-spent-following, fpl</pre>	Speed, Spl Passing tive leng, Lde length	f Lar engtl e i of	- - 0.0 ne	%
<pre>ength of two-lane highway downstream of effective length of the passing lane for average travel s dj. factor for the effect of passing lane on average speed, fpl verage travel speed including passing lane, ATSpl ercent free flow speed including passing lane, PFF Percent Time-Spent-Following with F ownstream length of two-lane highway within effect of passing lane for percent time-spent-followir ength of two-lane highway downstream of effective the passing lane for percent time-spent-followid dj. factor for the effect of passing lane on percent time-spent-following, fpl</pre>	Speed, Spl Passing tive leng, Lde length	f Lar engtl e i of	- - 0.0 ne	%
<pre>ength of two-lane highway downstream of effective length of the passing lane for average travel s dj. factor for the effect of passing lane on average speed, fpl verage travel speed including passing lane, ATSpl ercent free flow speed including passing lane, PFF Percent Time-Spent-Following with F ownstream length of two-lane highway within effect of passing lane for percent time-spent-followir ength of two-lane highway downstream of effective the passing lane for percent time-spent-followid dj. factor for the effect of passing lane on percent time-spent-following, fpl ercent time-spent-following</pre>	Speed, Spl Passing tive leng, Lde length ing, Ld	g Lar engtl e i of	- - 0.0 ne - - -	۶ mi mi ۶
<pre>ength of two-lane highway downstream of effective length of the passing lane for average travel s dj. factor for the effect of passing lane on average speed, fpl verage travel speed including passing lane, ATSpl ercent free flow speed including passing lane, PFF Percent Time-Spent-Following with F cownstream length of two-lane highway within effect of passing lane for percent time-spent-followir ength of two-lane highway downstream of effective the passing lane for percent time-spent-followir dj. factor for the effect of passing lane on percent time-spent-following, fpl ercent time-spent-following including passing lane, PTSFpl Level of Service and Other Performance Measure</pre>	Speed, Spl Passing tive length length ing, Lde length	g Lar engtl e i of	- - 0.0 ne - - -	۶ mi mi ۶
<pre>ength of two-lane highway downstream of effective length of the passing lane for average travel s dj. factor for the effect of passing lane on average speed, fpl verage travel speed including passing lane, ATSpl ercent free flow speed including passing lane, PFF Percent Time-Spent-Following with F ownstream length of two-lane highway within effect of passing lane for percent time-spent-followir ength of two-lane highway downstream of effective the passing lane for percent time-spent-followir dj. factor for the effect of passing lane on percent time-spent-following, fpl ercent time-spent-following including passing lane, PTSFpl Level of Service and Other Performance Measur evel of service including passing lane, LOSpl</pre>	Speed, Spl Passing tive leng, Lde length ing, Ld	Lar ngtl of h Pa	- 0.0 ne - - assing	۶ mi mi ۶
<pre>ength of two-lane highway downstream of effective length of the passing lane for average travel s dj. factor for the effect of passing lane on average speed, fpl verage travel speed including passing lane, ATSpl ercent free flow speed including passing lane, PFF Percent Time-Spent-Following with F ownstream length of two-lane highway within effect of passing lane for percent time-spent-followir ength of two-lane highway downstream of effective the passing lane for percent time-spent-followid dj. factor for the effect of passing lane on percent time-spent-following, fpl ercent time-spent-following including passing lane, PTSFpl Level of Service and Other Performance Measure</pre>	Speed, Spl Passing tive length length ing, Lde length	Lar ngtl of h Pa	- - 0.0 ne - - -	۶ mi mi ۶

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	1289.8
Effective width of outside lane, We	28.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	3.47
Bicycle LOS	C

- 1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific dewngrade segments are treated as level terrain.
- 2. If vi (vd or vo) >= 1,700 pc/h, terminate analysis-the LOS is F.
- 3. For the analysis direction only and for v>200 veh/h.
- 4. For the analysis direction only.
- 5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.
- * These items have been entered or edited to override calculated value

Phone: Fax: E-Mail: _____Directional Two-Lane Highway Segment Analysis______ Analyst DRR Agency/Co. CTG Date Performed 2019-08-06 Analysis Time Period Friday PM Peak Hour Silverado Trail NB Highway Silverado North of Project From/To Jurisdiction Napa Co Analysis Year 2030 w-o Project Description Paraduxx Winery _____Input Data_____ Peak hour factor, PHF 0.97 Highway class Class 1 Shoulder width 8.0 ft % Trucks and buses 5 % 12.0ft% Trucks crawling0.01.5miTruck crawl speed0.0Level% Recreational vehicles2 Lane width 0.0 % 0.0 Segment length mi/hr Level Terrain type 8 - mi % No-passing zones 85 - % Access point density 9 Grade: Length % Up/down /mi Analysis direction volume, Vd 605 veh/h Opposing direction volume, Vo 1465 veh/h _____Average Travel Speed____ Direction Analysis(d) Opposing (o) PCE for trucks, ET 1.1* 1.0 PCE for RVs, ER 1.0* 1.0 Heavy-vehicle adj. factor,(note-5) fHV 0.995 1.000 1.00 Grade adj. factor, (note-1) fg 1.00 627 pc/h 1510 pc/h Directional flow rate, (note-2) vi Free-Flow Speed from Field Measurement: Field measured speed, (note-3) S FM mi/h _ Observed total demand, (note-3) V veh/h Estimated Free-Flow Speed: Base free-flow speed, (note-3) BFFS 55.0 mi/h Adj. for lane and shoulder width, (note-3) fLS 0.0 mi/h Adj. for access point density,(note-3) fA 2.3 mi/h Free-flow speed, FFSd 52.8 mi/h 0.6 mi/h Adjustment for no-passing zones, fnp Average travel speed, ATSd 35.5 mi/h Percent Free Flow Speed, PFFS 67.3 %

	ing			
Direction Analysis(d)		Opr	osing	(0)
PCE for trucks, ET 1.0		opp	1.0	
PCE for RVs, ER 1.0			1.0	
eavy-vehicle adjustment factor, fHV 1.000			1.000	
rade adjustment factor, (note-1) fg 1.00	(1		1.00	<i>(</i> -
	c/h		1510	pc/h
ase percent time-spent-following,(note-4) BPTSFd	68.9	00		
djustment for no-passing zones, fnp	13.8			
ercent time-spent-following, PTSFd	72.9	010		
Level of Service and Other Performa	ance Me	asur	es	
evel of service, LOS	Е			
olume to capacity ratio, v/c	0.37			
eak 15-min vehicle-miles of travel, VMT15	234	ve	h-mi	
eak-hour vehicle-miles of travel, VMT60	908		eh-mi	
eak 15-min total travel time, TT15	908 6.6		h-h	
apacity from ATS, CdATS	1700			
			h/h h/h	
apacity from PTSF, CdPTSF	1700		h/h	
irectional Capacity	1700	ve	h/h	
Passing Lane Analysis_				
otal length of analysis segment, Lt			1.5	mi
ength of two-lane highway upstream of the passing	lane		_	mi
ength of passing lane including tapers, Lpl	ranc,	Ца	_	mi
verage travel speed, ATSd (from above)			35.5	mi/h
ercent time-spent-following, PTSFd (from above)			72.9	
evel of service, LOSd (from above)			E	
Assessed Treased with Dega				
Average Travel Speed with Pass:	ing Lan	e		
		e		
ownstream length of two-lane highway within effect	tive			
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ownstream length of two-lane highway within effect length of passing lane for average travel speed ength of two-lane highway downstream of effective length of the passing lane for average travel s dj. factor for the effect of passing lane on average speed, fpl verage travel speed including passing lane, ATSpl ercent free flow speed including passing lane, PFI 	tive d, Lde speed, FSpl Passing tive le ng, Lde length	Ld Lan ngth	- - 0.0 ne	mi mi %
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<pre>ownstream length of two-lane highway within effect length of passing lane for average travel speed ength of two-lane highway downstream of effective length of the passing lane for average travel s dj. factor for the effect of passing lane on average speed, fpl verage travel speed including passing lane, ATSpl ercent free flow speed including passing lane, PFI Percent Time-Spent-Following with I ownstream length of two-lane highway within effect of passing lane for percent time-spent-followin ength of two-lane highway downstream of effective the passing lane for percent time-spent-followin dj. factor for the effect of passing lane on percent time-spent-following, fpl ercent time-spent-following including passing lane, PTSFpl Level of Service and Other Performance Measure</pre>	tive d, Lde speed, FSpl Passing tive le ng, Lde length ing, Ld	Ld Lan ngth of	- - 0.0 ne	mi mi % mi %
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<pre>ownstream length of two-lane highway within effect length of passing lane for average travel speed ength of two-lane highway downstream of effective length of the passing lane for average travel s dj. factor for the effect of passing lane on average speed, fpl verage travel speed including passing lane, ATSpl ercent free flow speed including passing lane, PFI Percent Time-Spent-Following with I ownstream length of two-lane highway within effect of passing lane for percent time-spent-followin ength of two-lane highway downstream of effective the passing lane for percent time-spent-followin dj. factor for the effect of passing lane on percent time-spent-following, fpl ercent time-spent-following including passing lane, PTSFpl Level of Service and Other Performance Measure</pre>	tive d, Lde speed, FSpl Passing tive le ng, Lde length ing, Ld	Ld Lan ngth of h Pa	- - 0.0 ne	mi mi % mi %

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	623.7
Effective width of outside lane, We	28.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	3.10
Bicycle LOS	С

- 1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific dewngrade segments are treated as level terrain.
- 2. If vi (vd or vo) >= 1,700 pc/h, terminate analysis-the LOS is F.
- 3. For the analysis direction only and for v>200 veh/h.
- 4. For the analysis direction only.
- 5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.
- * These items have been entered or edited to override calculated value

Phone: Fax: E-Mail: _____Directional Two-Lane Highway Segment Analysis______ Analyst DRR Agency/Co. CTG Date Performed 2019-08-06 Analysis Time Period Friday PM Peak Hour Silverado Trail NB Highway Silverado South of Project From/To Jurisdiction Napa Co Analysis Year 2030 w-o Project Description Paraduxx Winery _____Input Data_____ Peak hour factor, PHF 0.97 Highway class Class 1 Shoulder width 8.0 ft % Trucks and buses 5 % 8.0 12.0 ft % Trucks crawing 0.8 mi Truck crawl speed 0.0 % Recreational vehicles 2 % Recreational vehicles 50 Lane width 0.0 % Segment length 0.0 mi/hr Terrain type 8 mi % No-passing zones 50 % Access point density 12 Grade: Length % Up/down _ /mi Analysis direction volume, Vd 606 veh/h Opposing direction volume, Vo 1476 veh/h _____Average Travel Speed____ Direction Analysis(d) Opposing (o) PCE for trucks, ET 1.1* 1.0 PCE for RVs, ER 1.0* 1.0 Heavy-vehicle adj. factor,(note-5) fHV 0.995 1.000 1.00 Grade adj. factor, (note-1) fg 1.00 628 pc/h 1522 Directional flow rate, (note-2) vi pc/h Free-Flow Speed from Field Measurement: Field measured speed, (note-3) S FM mi/h _ Observed total demand, (note-3) V veh/h Estimated Free-Flow Speed: Base free-flow speed, (note-3) BFFS 55.0 mi/h Adj. for lane and shoulder width, (note-3) fLS 0.0 mi/h Adj. for access point density,(note-3) fA 3.0 mi/h Free-flow speed, FFSd 52.0 mi/h mi/h Adjustment for no-passing zones, fnp 0.5 Average travel speed, ATSd 34.8 mi/h Percent Free Flow Speed, PFFS 66.9 %

Direction Analysis(d)		aa0	osing	(0)
PCE for trucks, ET 1.0			1.0	. ,
PCE for RVs, ER 1.0			1.0	
Neavy-vehicle adjustment factor, fHV 1.000			1.000	
Grade adjustment factor, (note-1) fg 1.00			1.000	
	a /h			ng/h
—	c/h	0	1522	pc/h
ase percent time-spent-following, (note-4) BPTSFd		010		
djustment for no-passing zones, fnp	12.2			
ercent time-spent-following, PTSFd	72.5	olo		
Level of Service and Other Perform	ance Me	asur	es	
evel of service, LOS	Е			
olume to capacity ratio, v/c	0.37			
eak 15-min vehicle-miles of travel, VMT15	125	ve	h-mi	
eak-hour vehicle-miles of travel, VMT60	485	ve	h-mi	
eak 15-min total travel time, TT15	3.6		h-h	
apacity from ATS, CdATS	1700		h/h	
apacity from PTSF, CdPTSF	1700		h/h	
irectional Capacity	1700	ve	h/h	
Passing Lane Analysis				
otal length of analysis segment, Lt			0.8	mi
ength of two-lane highway upstream of the passing	lane		-	mi
ength of passing lane including tapers, Lpl	rane,	шu	_	mi
verage travel speed, ATSd (from above)			34.8	mi/h
ercent time-spent-following, PTSFd (from above)			72.5	
evel of service, LOSd (from above)			E	
Average Travel Speed with Pass	ing Lan			
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ownstream length of two-lane highway within effec length of passing lane for average travel spee	tive d, Lde	le		
ownstream length of two-lane highway within effec length of passing lane for average travel spee ength of two-lane highway downstream of effective	tive d, Lde	.e		mi
ownstream length of two-lane highway within effec length of passing lane for average travel spee ength of two-lane highway downstream of effective length of the passing lane for average travel	tive d, Lde	.e		
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ownstream length of two-lane highway within effec length of passing lane for average travel spee ength of two-lane highway downstream of effective length of the passing lane for average travel dj. factor for the effect of passing lane on average speed, fpl	tive d, Lde speed,	.e		mi
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<pre>ownstream length of two-lane highway within effec length of passing lane for average travel spee ength of two-lane highway downstream of effective length of the passing lane for average travel dj. factor for the effect of passing lane on average speed, fpl verage travel speed including passing lane, ATSpl ercent free flow speed including passing lane, PF Percent Time-Spent-Following with ownstream length of two-lane highway within effec of passing lane for percent time-spent-following ength of two-lane highway downstream of effective the passing lane for percent time-spent-follow dj. factor for the effect of passing lane</pre>	tive d, Lde speed, FSpl Passing tive le ng, Lde length	Ld Lan Ength	- - - 0.0 e	mi mi %
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<pre>ownstream length of two-lane highway within effec length of passing lane for average travel spee ength of two-lane highway downstream of effective length of the passing lane for average travel dj. factor for the effect of passing lane on average speed, fpl verage travel speed including passing lane, ATSpl ercent free flow speed including passing lane, PF </pre>	tive d, Lde speed, FSpl Passing tive le ng, Lde length ing, Ld	Ld Lan Ingth	- - 0.0 e	mi mi % mi %
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<pre>ownstream length of two-lane highway within effec length of passing lane for average travel spee ength of two-lane highway downstream of effective length of the passing lane for average travel dj. factor for the effect of passing lane on average speed, fpl verage travel speed including passing lane, ATSpl ercent free flow speed including passing lane, PF Percent Time-Spent-Following with ownstream length of two-lane highway within effec of passing lane for percent time-spent-following ength of two-lane highway downstream of effective the passing lane for percent time-spent-following dj. factor for the effect of passing lane on percent time-spent-following, fpl ercent time-spent-following including passing lane, PTSFpl Level of Service and Other Performance Measure</pre>	tive d, Lde speed, FSpl Passing tive le ng, Lde length ing, Ld	Ld Ld I Lan I of h Pa	- - 0.0 e	mi mi % mi %

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	624.7
Effective width of outside lane, We	28.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	3.10
Bicycle LOS	С

- 1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific dewngrade segments are treated as level terrain.
- 2. If vi (vd or vo) >= 1,700 pc/h, terminate analysis-the LOS is F.
- 3. For the analysis direction only and for v>200 veh/h.
- 4. For the analysis direction only.
- 5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.
- * These items have been entered or edited to override calculated value

Phone: Fax: E-Mail: _____Directional Two-Lane Highway Segment Analysis______ Analyst DRR Agency/Co. CTG Date Performed 2019-08-06 Analysis Time Period Friday PM Peak Hour Silverado Trail SB Highway Silverado North of Project From/To Jurisdiction Napa Co Analysis Year 2030 w-o Project Description Paraduxx Winery _____Input Data_____ Peak hour factor, PHF 0.97 Highway class Class 1 Shoulder width 8.0 ft % Trucks and buses 5 % 12.0ft% Trucks crawling1.5miTruck crawl speedLevel% Recreational vehi Lane width 0.0 % Segment length 0.0 mi/hr Level % % Recreational vehicles 2 Terrain type % No-passing zones 70 Access point density 9 - mi - % Grade: Length % Up/down /mi Analysis direction volume, Vd 1465 veh/h Opposing direction volume, Vo 605 veh/h _____Average Travel Speed____ Direction Opposing (o) Analysis(d) PCE for trucks, ET 1.1* 1.1 PCE for RVs, ER 1.0* 1.0 Heavy-vehicle adj. factor,(note-5) fHV 0.995 0.995 Grade adj. factor,(note-1) fg 1.00 1.00 1518 pc/h Directional flow rate, (note-2) vi 627 pc/h Free-Flow Speed from Field Measurement: Field measured speed, (note-3) S FM mi/h Observed total demand, (note-3) V _ veh/h Estimated Free-Flow Speed: Base free-flow speed, (note-3) BFFS 55.0 mi/h Adj. for lane and shoulder width, (note-3) fLS 0.0 mi/h Adj. for access point density,(note-3) fA 2.3 mi/h Free-flow speed, FFSd 52.8 mi/h mi/h Adjustment for no-passing zones, fnp 1.6 Average travel speed, ATSd 34.5 mi/h Percent Free Flow Speed, PFFS 65.5 %

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Direction Analysis(d)		1a0	oosina	(0)
PCE for trucks, ET 1.0		0101	1.0	()
PCE for RVs, ER 1.0			1.0	
Heavy-vehicle adjustment factor, fHV 1.000			1.000)
Grade adjustment factor, (note-1) fg 1.00			1.00	,
	c/h		624	pc/h
—		010	027	pc/II
Base percent time-spent-following, (note-4) BPTSFd		6		
	13.4	•		
Percent time-spent-following, PTSFd	94.9	010		
Level of Service and Other Performa	ance Me	easu	res	
Level of service, LOS	Е			
Volume to capacity ratio, v/c	0.89			
Peak 15-min vehicle-miles of travel, VMT15	566	Ve	eh-mi	
Peak-hour vehicle-miles of travel, VMT60	2198		eh-mi	
eak 15-min total travel time, TT15	16.4		eh-h	
Capacity from ATS, CdATS	1700		eh/h	
Capacity from PTSF, CdPTSF	1700		eh/h	
Directional Capacity	1700	V	eh/h	
Passing Lane Analysis_				
otal length of analysis segment, Lt			1.5	mi
	lana	т.,		
ength of two-lane highway upstream of the passing	rane,	ьu		mi
ength of passing lane including tapers, Lpl			-	mi
verage travel speed, ATSd (from above)			34.5	mi/h
Percent time-spent-following, PTSFd (from above)			94.9	
Level of service, LOSd (from above)			Е	
Average Travel Speed with Passi	ng Lar	ie		
Downstream length of two-lane highway within effect	ive			
length of passing lane for average travel speed			_	mi
Tengen of passing fane for average claver speed	I, DUE			
angth of two long bighters deconstrange of officiation				
		т.J		
length of the passing lane for average travel s	speed,	Ld	-	mi
length of the passing lane for average travel s dj. factor for the effect of passing lane	speed,	Ld	-	mi
length of the passing lane for average travel s dj. factor for the effect of passing lane on average speed, fpl	speed,	Ld	_	mi
<pre>length of the passing lane for average travel s adj. factor for the effect of passing lane on average speed, fpl</pre>	speed,	Ld	-	mi
length of the passing lane for average travel s Adj. factor for the effect of passing lane on average speed, fpl Average travel speed including passing lane, ATSpl		Ld	- - 0.0	mi %
length of the passing lane for average travel s adj. factor for the effect of passing lane on average speed, fpl average travel speed including passing lane, ATSpl	Spl		- - 0.0	9
Adj. factor for the effect of passing lane on average speed, fpl Average travel speed including passing lane, ATSpl Percent free flow speed including passing lane, PFF Percent Time-Spent-Following with F	'Spl Passing	g Lai	- 0.0 ne	9
<pre>length of the passing lane for average travel s adj. factor for the effect of passing lane on average speed, fpl average travel speed including passing lane, ATSpl Percent free flow speed including passing lane, PFFPercent Time-Spent-Following with F Downstream length of two-lane highway within effect</pre>	'Spl Passing tive le	g Lai	- 0.0 ne	<u>२</u>
<pre>length of the passing lane for average travel s dj. factor for the effect of passing lane on average speed, fpl average travel speed including passing lane, ATSpl ercent free flow speed including passing lane, PFF Percent Time-Spent-Following with F bownstream length of two-lane highway within effect of passing lane for percent time-spent-followir</pre>	Spl Passing tive le	g Lan engtl	- 0.0 ne	9
<pre>length of the passing lane for average travel s adj. factor for the effect of passing lane on average speed, fpl average travel speed including passing lane, ATSpl percent free flow speed including passing lane, PFF Percent Time-Spent-Following with F pownstream length of two-lane highway within effect of passing lane for percent time-spent-following ength of two-lane highway downstream of effective</pre>	Spl Passing tive leng, Lde length	g Lan engtl e n of	- 0.0 ne	१ mi
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<pre>length of the passing lane for average travel s dj. factor for the effect of passing lane on average speed, fpl verage travel speed including passing lane, ATSpl ercent free flow speed including passing lane, PFF Percent Time-Spent-Following with F ownstream length of two-lane highway within effect of passing lane for percent time-spent-followin hength of two-lane highway downstream of effective the passing lane for percent time-spent-followin dj. factor for the effect of passing lane</pre>	Spl Passing tive leng, Lde length	g Lan engtl e n of	- 0.0 ne	१ mi
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Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	1510.3
Effective width of outside lane, We	28.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	3.55
Bicycle LOS	D

- 1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific dewngrade segments are treated as level terrain.
- 2. If vi (vd or vo) >= 1,700 pc/h, terminate analysis-the LOS is F.
- 3. For the analysis direction only and for v>200 veh/h.
- 4. For the analysis direction only.
- 5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.
- * These items have been entered or edited to override calculated value

Phone: Fax: E-Mail: _____Directional Two-Lane Highway Segment Analysis______ Analyst DRR Agency/Co. CTG Date Performed 2019-08-06 Analysis Time Period Friday PM Peak Hour Silverado Trail SB Highway Silverado North of Project From/To Jurisdiction Napa Co Analysis Year 2030 w-o Project Description Paraduxx Winery _____Input Data_____ Peak hour factor, PHF 0.97 Highway class Class 1 Shoulder width 8.0 ft % Trucks and buses 5 % 8.0 12.0 ft % Trucks crawlespeed 0.8 mi Truck crawl speed % Recreational vehi Lane width 0.0 % Segment length 0.0 mi/hr % Recreational vehicles 2 Terrain type 8 % No-passing zones 100 Access point density 12 Grade: Length - mi 8 Up/down _ 00 /mi Analysis direction volume, Vd 1476 veh/h Opposing direction volume, Vo 606 veh/h _____Average Travel Speed____ Direction Opposing (o) Analysis(d) PCE for trucks, ET 1.1* 1.1 PCE for RVs, ER 1.0* 1.0 Heavy-vehicle adj. factor,(note-5) fHV 0.995 0.995 Grade adj. factor,(note-1) fg 1.00 1.00 1529 pc/h Directional flow rate, (note-2) vi 628 pc/h Free-Flow Speed from Field Measurement: Field measured speed, (note-3) S FM mi/h Observed total demand, (note-3) V _ veh/h Estimated Free-Flow Speed: Base free-flow speed, (note-3) BFFS 55.0 mi/h Adj. for lane and shoulder width, (note-3) fLS 0.0 mi/h Adj. for access point density,(note-3) fA 3.0 mi/h Free-flow speed, FFSd 52.0 mi/h mi/h Adjustment for no-passing zones, fnp 1.8 Average travel speed, ATSd 33.4 mi/h Percent Free Flow Speed, PFFS 64.3 %

Direction Analysis(d)		1 0 0	osina	(0)
PCE for trucks, ET 1.0			1.0	
PCE for RVs, ER 1.0			1.0	
Heavy-vehicle adjustment factor, fHV 1.000			1.000)
Grade adjustment factor, (note-1) fg 1.00			1.00	
	∶/h		625	pc/h
Base percent time-spent-following,(note-4) BPTSFd		00	020	F 0 / 11
	14.2	Ũ		
	95.5	olo		
Level of Service and Other Performa	nce Me	easur	res	
Level of service, LOS	Ε			
Volume to capacity ratio, v/c	0.90			
Peak 15-min vehicle-miles of travel, VMT15	304		eh-mi	
•	1181		eh-mi	
Peak 15-min total travel time, TT15	9.1		eh-h	
Capacity from ATS, CdATS	1700		eh/h	
Capacity from PTSF, CdPTSF	1700	ve	eh/h	
Directional Capacity	1700	ve	eh/h	
Passing Lane Analysis_				
lotal length of analyzig gegment It			0.8	mi
Cotal length of analysis segment, Lt Length of two-lane highway upstream of the passing	lanc	Τ.,	-	mi
	lane,	Lu	-	
ength of passing lane including tapers, Lpl			-	mi
Average travel speed, ATSd (from above)			33.4	mi/h
Percent time-spent-following, PTSFd (from above)			95.5	
Level of service, LOSd (from above)			E	
Average Travel Speed with Passi	ng Lar	ne		
Downstream length of two-lane highway within effect	ive			
			_	mi
length of passing lane for average travel speed			-	mi
length of passing lane for average travel speed length of two-lane highway downstream of effective	l, Lde		-	
length of passing lane for average travel speed ength of two-lane highway downstream of effective length of the passing lane for average travel s	l, Lde		-	mi mi
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Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	1521.6
Effective width of outside lane, We	28.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	3.55
Bicycle LOS	D

- 1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific dewngrade segments are treated as level terrain.
- 2. If vi (vd or vo) >= 1,700 pc/h, terminate analysis-the LOS is F.
- 3. For the analysis direction only and for v>200 veh/h.
- 4. For the analysis direction only.
- 5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.
- * These items have been entered or edited to override calculated value

Phone: Fax: E-Mail: _____Directional Two-Lane Highway Segment Analysis______ Analyst DRR Agency/Co. CTG Date Performed2019-08-06Analysis Time PeriodSaturday PM Peak Hour Silverado Trail NB Highway Silverado North of Project From/To Jurisdiction Napa Co Analysis Year 2030 without Project Description Paraduxx Winery _____Input Data_____ Peak hour factor, PHF 0.88 Highway class Class 1 Shoulder width 8.0 ft % Trucks and buses 5 % 12.0ft% Trucks crawling0.01.5miTruck crawl speed0.0Rolling% Recreational vehicles2 Lane width 0.0 % 0.0 Segment length mi/hr Rolling Terrain type 8 % No-passing zones 85 Access point density 9 Grade: Length - mi % Up/down _ 00 /mi Analysis direction volume, Vd 624 veh/h Opposing direction volume, Vo 1223 veh/h _____Average Travel Speed____ Direction Analysis(d) Opposing (o) PCE for trucks, ET 1.1* 1.3 PCE for RVs, ER 1.0* 1.1 Heavy-vehicle adj. factor,(note-5) fHV 0.995 0.983 Grade adj. factor, (note-1) fg 0.98 1.00 727 pc/h Directional flow rate, (note-2) vi 1414 pc/h Free-Flow Speed from Field Measurement: Field measured speed, (note-3) S FM mi/h _ Observed total demand, (note-3) V veh/h Estimated Free-Flow Speed: Base free-flow speed, (note-3) BFFS 55.0 mi/h Adj. for lane and shoulder width, (note-3) fLS 0.0 mi/h Adj. for access point density,(note-3) fA 2.3 mi/h Free-flow speed, FFSd 52.8 mi/h 0.7 mi/h Adjustment for no-passing zones, fnp Average travel speed, ATSd 35.4 mi/h Percent Free Flow Speed, PFFS 67.1 %

CE for trucks, ET 1.0 CE for RVS, ER 1.0 CE for RVS, ER 1.0 acay-vehicle adjustment factor, fHV 1.000 1.000 rade adjustment factor, (note-1) fg 0.99 1.00 irectional flow rate, (note-2) vi 716 pc/h 1390 pc/h ase percent time-spent-following, (note-4) BPTSFd 72.2 % djustment for no-passing zones, fnp 14.7 ercent time-spent-following, PTSFd 77.2 % Level of Service and Other Performance Measures evel of service, LOS E olume to capacity ratio, v/c 0.41 eak 15-min vehicle-miles of travel, VMT15 266 veh-mi eak 15-min vehicle-miles of travel, VMT15 266 veh-mi eak 15-min total travel time, TT15 7.5 veh-h apacity from ATS, CdATS 1671 veh/h irectional Capacity 1700 veh/h irectional Capacity 1700 veh/h irectional Capacity 152 1671 veh/h mi ength of two-lane highway upstream of the passing lane, Lu - mi ength of passing lane including tapers, Lpl - mi ength of passing lane including tapers, Lpl - mi ength of passing lane for average travel speed, Ld - mi ength of two-lane highway within effective length of two-lane highway downstream of effective length of two-lane highway within effective length of two-lane highway within effective length of two-lane highway within effective length of two-lane highway downstream of effective length of passing lane for percent time-spent-following, Ld - mi ength of two-lane highway downstream of effective length of passing lane for percent time-spent-following, Ld - mi dj.	Percent Time-Sper	IT-FOLLOW:	Ing		
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Passing Lane Analysis	Capacity from PTSF, CdPTSF			veh/h	
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	Level of Service and Other Performan	nce Measu	res with H	Passing	Lane
		[.0Sp]	F		
	evel of service including pagaing lang		14		
		00551		veh-h	

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	709.1
Effective width of outside lane, We	28.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	3.16
Bicycle LOS	С

- 1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific dewngrade segments are treated as level terrain.
- 2. If vi (vd or vo) >= 1,700 pc/h, terminate analysis-the LOS is F.
- 3. For the analysis direction only and for v>200 veh/h.
- 4. For the analysis direction only.
- 5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.
- * These items have been entered or edited to override calculated value

Phone: Fax: E-Mail: _____Directional Two-Lane Highway Segment Analysis______ Analyst DRR Agency/Co. CTG Date Performed 2019-08-06 Analysis Time Period Saturday PM Peak Hour Silverado Trail NB Highway Silverado South of Project From/To Jurisdiction Napa Co Analysis Year 2030 without Project Description Paraduxx Winery _____Input Data_____ Peak hour factor, PHF 0.88 Highway class Class 1 Shoulder width 8.0 ft % Trucks and buses 5 % Lane width 0.0 % Segment length 0.0 mi/hr % Recreational vehicles 2 Terrain type % No-passing zones 50 8 Grade: Length - mi % 00 Access point density 12 Up/down _ /mi Analysis direction volume, Vd 629 veh/h Opposing direction volume, Vo 1230 veh/h _____Average Travel Speed____ Direction Analysis(d) Opposing (o) PCE for trucks, ET 1.1* 1.0 PCE for RVs, ER 1.0* 1.0 Heavy-vehicle adj. factor,(note-5) fHV 0.995 1.000 Grade adj. factor, (note-1) fg 1.00 1.00 718 pc/h Directional flow rate, (note-2) vi 1398 pc/h Free-Flow Speed from Field Measurement: Field measured speed, (note-3) S FM mi/h Observed total demand, (note-3) V _ veh/h Estimated Free-Flow Speed: Base free-flow speed, (note-3) BFFS 55.0 mi/h Adj. for lane and shoulder width, (note-3) fLS 0.0 mi/h Adj. for access point density,(note-3) fA 3.0 mi/h Free-flow speed, FFSd 52.0 mi/h 0.6 mi/h Adjustment for no-passing zones, fnp Average travel speed, ATSd 35.0 mi/h Percent Free Flow Speed, PFFS 67.3 ŝ

Direction Analysis	(d)	Opposing	(0)
PCE for trucks, ET 1.0	()	1.0	
PCE for RVs, ER 1.0		1.0	
	n		
leavy-vehicle adjustment factor, fHV 1.000		1.000	
rade adjustment factor, (note-1) fg 1.00		1.00	(1
irectional flow rate,(note-2) vi 715	pc/h	1398	pc/h
Base percent time-spent-following,(note-4) BPTS		010	
djustment for no-passing zones, fnp	13.3		
ercent time-spent-following, PTSFd	76.7	00	
Level of Service and Other Per	formance Me	easures	
evel of service, LOS	E		
olume to capacity ratio, v/c	0.42		
eak 15-min vehicle-miles of travel, VMT15	143	veh-mi	
eak-hour vehicle-miles of travel, VMT60	503	veh-mi	
eak 15-min total travel time, TT15	4.1	ven-h	
apacity from ATS, CdATS	1700	veh/h	
apacity from PTSF, CdPTSF	1700	veh/h	
pirectional Capacity	1700	veh/h	
Passing Lane Analy	ysis		
otal length of analysis segment, Lt		0.8	mi
ength of two-lane highway upstream of the pass	sing lang		mi
ength of passing lane including tapers, Lpl	July Lalle,	<u>ц</u> –	mi
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verage travel speed, ATSd (from above)	`	35.0	mi/h
Percent time-spent-following, PTSFd (from above	e)	76.7	
Level of service, LOSd (from above)		E	
Average Travel Speed with 1	Passing La	ne	
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oownstream length of two-lane highway within er length of passing lane for average travel a length of two-lane highway downstream of effect length of the passing lane for average trav adj. factor for the effect of passing lane on average speed, fpl	ffective speed, Lde tive vel speed,	_	mi
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<pre>ownstream length of two-lane highway within ex length of passing lane for average travel a ength of two-lane highway downstream of effect length of the passing lane for average trave dj. factor for the effect of passing lane on average speed, fpl verage travel speed including passing lane, Ar ercent free flow speed including passing lane Percent Time-Spent-Following within ex of passing lane for percent time-spent-foll ength of two-lane highway within ex of passing lane for percent time-spent-foll dj. factor for the effect of passing lane on percent time-spent-following, fpl</pre>	ffective speed, Lde tive vel speed, ISpl , PFFSpl ith Passing ffective la lowing, Lde tive lengt	- Ld - - 0.0 g Lane ength e - n of	mi mi % mi
<pre>pownstream length of two-lane highway within ex- length of passing lane for average travel a length of two-lane highway downstream of effect length of the passing lane for average trav- dj. factor for the effect of passing lane on average speed, fpl verage travel speed including passing lane, Ar- ercent free flow speed including passing lane Percent Time-Spent-Following within ex- of passing lane for percent time-spent-following the ength of two-lane highway downstream of effect the passing lane for percent time-spent-following the dj. factor for the effect of passing lane on percent time-spent-following, fpl</pre>	ffective speed, Lde tive vel speed, ISpl , PFFSpl ith Passing ffective la lowing, Lde tive lengt	- Ld - - 0.0 g Lane ength e - n of	mi mi % mi
<pre>pownstream length of two-lane highway within ex- length of passing lane for average travel a sength of two-lane highway downstream of effect length of the passing lane for average trav- dj. factor for the effect of passing lane on average speed, fpl average travel speed including passing lane, Ar percent free flow speed including passing lane Percent Time-Spent-Following within ex- of passing lane for percent time-spent-following the passing lane for percent time-spent-following the passing lane for percent time-spent-following dj. factor for the effect of passing lane on percent time-spent-following, fpl percent time-spent-following</pre>	ffective speed, Lde tive vel speed, ISpl , PFFSpl ith Passing ffective le lowing, Lde tive lengt llowing, Lde	- Ld - - 0.0 g Lane ength e - n of d - - -	mi mi % mi mi
<pre>Downstream length of two-lane highway within ex- length of passing lane for average travel a length of two-lane highway downstream of effect length of the passing lane for average trav- adj. factor for the effect of passing lane on average speed, fpl average travel speed including passing lane, AT bercent free flow speed including passing lane Percent Time-Spent-Following within ex- of passing lane for percent time-spent-following within ex- of passing lane for percent time-spent-following the passing lane for percent time-spent-following and the passing lane for percent time-spent-following on percent time-spent-following, fpl Percent time-spent-following including passing lane, PTSFpl Level of Service and Other Performance Me</pre>	ffective speed, Lde tive vel speed, ISpl , PFFSpl ith Passing ffective le lowing, Lde tive lengt llowing, Lde	- Ld - - 0.0 g Lane ength e - n of d - - -	mi mi % mi mi
<pre>bownstream length of two-lane highway within ex- length of passing lane for average travel a ength of two-lane highway downstream of effect length of the passing lane for average trav- dj. factor for the effect of passing lane on average speed, fpl verage travel speed including passing lane, Af- ercent free flow speed including passing lane Percent Time-Spent-Following within ex- of passing lane for percent time-spent-fol ength of two-lane highway within ex- of passing lane for percent time-spent-fol ength of two-lane highway downstream of effect the passing lane for percent time-spent-fol dj. factor for the effect of passing lane on percent time-spent-following, fpl ercent time-spent-following including passing lane, PTSFpl Level of Service and Other Performance Me eevel of service including passing lane, LOSpl</pre>	ffective speed, Lde tive vel speed, ISpl , PFFSpl ith Passing ffective le lowing, Lde tive lengt llowing, Lde	- Ld - - 0.0 g Lane ength e - n of d - - - th Passing	mi mi % mi mi
<pre>Downstream length of two-lane highway within ex- length of passing lane for average travel a length of two-lane highway downstream of effect length of the passing lane for average trav- dj. factor for the effect of passing lane on average speed, fpl verage travel speed including passing lane, A bercent free flow speed including passing lane Percent Time-Spent-Following within ex- of passing lane for percent time-spent-following the passing lane for percent time-spent-following dj. factor for the effect of passing lane on percent time-spent-following, fpl ercent time-spent-following including passing lane, PTSFpl</pre>	ffective speed, Lde tive vel speed, ISpl , PFFSpl ith Passing ffective le lowing, Lde tive lengt llowing, Lde	- Ld - - 0.0 g Lane ength e - n of d - - -	mi mi % mi mi

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	714.8
Effective width of outside lane, We	28.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	3.17
Bicycle LOS	С

- 1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific dewngrade segments are treated as level terrain.
- 2. If vi (vd or vo) >= 1,700 pc/h, terminate analysis-the LOS is F.
- 3. For the analysis direction only and for v>200 veh/h.
- 4. For the analysis direction only.
- 5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.
- * These items have been entered or edited to override calculated value

Phone: Fax: E-Mail: _____Directional Two-Lane Highway Segment Analysis______ Analyst DRR Agency/Co. CTG Date Performed 2019-08-06 Analysis Time Period Saturday PM Peak Hour Silverado Trail SB Highway Silverado North of Project From/To Jurisdiction Napa Co Analysis Year 2030 w-o Project Description Paraduxx Winery _____Input Data_____ Peak hour factor, PHF 0.88 Highway class Class 1 Shoulder width 8.0 ft % Trucks and buses 5 % 12.0 ft % Trucks crawling 1.5 mi Truck crawl speed Lane width 0.0 % Segment length 0.0 mi/hr Specific Grade % Recreational vehicles 2 Terrain type 8 Grade: Length 0.25 mi % No-passing zones 70 % Access point density 9 Up/down 3.0 00 /mi Analysis direction volume, Vd 1223 veh/h Opposing direction volume, Vo 624 veh/h _____Average Travel Speed____ Direction Analysis(d) Opposing (o) PCE for trucks, ET 1.1* 1.1 PCE for RVs, ER 1.0* 1.0 Heavy-vehicle adj. factor,(note-5) fHV 0.995 0.995 Grade adj. factor,(note-1) fg 1.00 1.00 1397 pc/h Directional flow rate, (note-2) vi 713 pc/h Free-Flow Speed from Field Measurement: Field measured speed, (note-3) S FM mi/h Observed total demand, (note-3) V _ veh/h Estimated Free-Flow Speed: Base free-flow speed, (note-3) BFFS 55.0 mi/h Adj. for lane and shoulder width, (note-3) fLS 0.0 mi/h Adj. for access point density,(note-3) fA 2.3 mi/h Free-flow speed, FFSd 52.8 mi/h mi/h Adjustment for no-passing zones, fnp 1.3 Average travel speed, ATSd 35.0 mi/h Percent Free Flow Speed, PFFS 66.4 ŝ

Percent Time	-Spent-Follow:	ing		
Direction PCE for trucks, ET	Analysis(d) 1.0	O	1.0	(0)
PCE for RVs, ER	1.0		1.0	
Heavy-vehicle adjustment factor, fHV Grade adjustment factor,(note-1) fg	1.000 0.92		1.000 1.00	
Directional flow rate, (note-2) vi		c/h	709	pc/h
Base percent time-spent-following, (no	-			F 0 / 11
Adjustment for no-passing zones, fnp		13.8		
Percent time-spent-following, PTSFd		96.1 %		
Level of Service and	Other Performa	ance Meas	ures	
Level of service, LOS		Е		
Volume to capacity ratio, v/c		0.89		
Peak 15-min vehicle-miles of travel,	VMT15		veh-mi	
Peak-hour vehicle-miles of travel, VM	Т60	1835	veh-mi	
Peak 15-min total travel time, TT15		14.9	veh-h	
Capacity from ATS, CdATS			veh/h	
Capacity from PTSF, CdPTSF			veh/h	
Directional Capacity		1564	veh/h	
Passing	Lane Analysis			
Total length of analysis segment, Lt			1.5	mi
Length of two-lane highway upstream o	f the passing	lane. Lu		mi
Length of passing lane including tape		ranc, ra	_	mi
Average travel speed, ATSd (from abov	_		35.0	mi/h
Percent time-spent-following, PTSFd (96.1	·
Level of service, LOSd (from above)			Е	
Average Travel Spe	ed with Pass:	ing Lane_		
Downstream length of two-lane highway	within effect	tive		
length of passing lane for averag			_	mi
Length of two-lane highway downstream		,		
length of the passing lane for av	erage travel s	speed, Ld	-	mi
Adj. factor for the effect of passing	lane			
on average speed, fpl	1		-	
Average travel speed including passin		7.0 1	-	0 .
Percent free flow speed including pas	sing lane, PF	FSPI	0.0	010
Percent Time-Spent-Fo	llowing with 1	Passing L	ane	
Downstream length of two-lane highway	within effect	tive leng	th	
of passing lane for percent time-		-	-	mi
Length of two-lane highway downstream			f	
the passing lane for percent time	-	ing, Ld	-	mi
Adj. factor for the effect of passing				
on percent time-spent-following,	fpl		-	
Percent time-spent-following including passing lane, PTSFpl			_	0
Level of Service and Other Perf	ormance Meagur	rac with	Dagging	
Dever of Service and Other Peri	ormance Measu	LES WILL	rassillà	
Level of service including passing la	ne, LOSpl	Е		
Peak 15-min total travel time, TT15	· -		veh-h	
Bicycle Le	vel of Service	e		

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	1389.8
Effective width of outside lane, We	28.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	3.50
Bicycle LOS	D

- 1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific dewngrade segments are treated as level terrain.
- 2. If vi (vd or vo) >= 1,700 pc/h, terminate analysis-the LOS is F.
- 3. For the analysis direction only and for v>200 veh/h.
- 4. For the analysis direction only.
- 5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.
- * These items have been entered or edited to override calculated value

Phone: Fax: E-Mail: _____Directional Two-Lane Highway Segment Analysis______ Analyst DRR Agency/Co. CTG Date Performed 2019-08-06 Analysis Time Period Saturday PM Peak Hour Silverado Trail SB Highway Silverado South of Project From/To Jurisdiction Napa Co Analysis Year 2030 w-o Project Description Paraduxx Winery _____Input Data_____ Peak hour factor, PHF 0.88 Highway class Class 1 Shoulder width 8.0 ft % Trucks and buses 5 % 8.0 12.0 ft % Trucks crawlespeed 0.8 mi Truck crawl speed % Recreational vehi Lane width 0.0 % Segment length 0.0 mi/hr % Recreational vehicles 2 Terrain type 8 % No-passing zones 100 Access point density 12 Grade: Length – mi 8 Up/down _ 00 /mi Analysis direction volume, Vd 1230 veh/h Opposing direction volume, Vo 629 veh/h _____Average Travel Speed____ Direction Opposing (o) Analysis(d) PCE for trucks, ET 1.1* 1.1 PCE for RVs, ER 1.0* 1.0 Heavy-vehicle adj. factor,(note-5) fHV 0.995 0.995 Grade adj. factor,(note-1) fg 1.00 1.00 1405 pc/h Directional flow rate, (note-2) vi 718 pc/h Free-Flow Speed from Field Measurement: Field measured speed, (note-3) S FM mi/h Observed total demand, (note-3) V _ veh/h Estimated Free-Flow Speed: Base free-flow speed, (note-3) BFFS 55.0 mi/h Adj. for lane and shoulder width, (note-3) fLS 0.0 mi/h Adj. for access point density,(note-3) fA 3.0 mi/h Free-flow speed, FFSd 52.0 mi/h mi/h Adjustment for no-passing zones, fnp 1.6 Average travel speed, ATSd 34.0 mi/h Percent Free Flow Speed, PFFS 65.3 %

	0			
Direction Analysis(d)		a0	posina	(0)
PCE for trucks, ET 1.0		01	1.0	
PCE for RVs, ER 1.0			1.0	
Heavy-vehicle adjustment factor, fHV 1.000			1.000)
Grade adjustment factor, (note-1) fg 1.00			1.00	
	c/h		715	pc/h
Base percent time-spent-following,(note-4) BPTSFd		010	115	pc/II
		6		
y i y i	15.1	•		
Percent time-spent-following, PTSFd	94.6	010		
Level of Service and Other Performa	ance Me	easu	res	
Level of service, LOS	Е			
Volume to capacity ratio, v/c	0.83			
Peak 15-min vehicle-miles of travel, VMT15	280	v	eh-mi	
Peak-hour vehicle-miles of travel, VMT60	984		eh-mi	
Peak 15-min total travel time, TT15	904 8.2		eh-h	
Lapacity from ATS, CdATS				
	1700		eh/h ch/h	
Capacity from PTSF, CdPTSF	1700		eh/h	
Directional Capacity	1700	v	eh/h	
Passing Lane Analysis_				
otal length of analysis segment, Lt			0.8	mi
length of two-lane highway upstream of the passing	lane	T.11		mi
ength of passing lane including tapers, Lpl	ranc,	шu		mi
			-	
verage travel speed, ATSd (from above)			34.0	mi/h
Percent time-spent-following, PTSFd (from above)			94.6	
Level of service, LOSd (from above)			E	
Average Travel Speed with Pass	ing Lar	ne		
Downstream length of two-lane highway within effect	tive			
length of passing lane for average travel speed			-	mi
Length of two-lane highway downstream of effective	a, 200			
length of the passing lane for average travel a	boogr	та		mi
	speed,	цα	-	mı
dj. factor for the effect of passing lane				
on average speed, fpl			-	
verage travel speed including passing lane, ATSpl			-	
Percent free flow speed including passing lane, PFF	FSpl		0.0	010
		g La	ne	
Percent Time-Spent-Following with H	Passing			
		-nat	h	
Downstream length of two-lane highway within effect	tive le	-	h	mi
ownstream length of two-lane highway within effect of passing lane for percent time-spent-followin	tive le	9	_	mi
ownstream length of two-lane highway within effect of passing lane for percent time-spent-followin length of two-lane highway downstream of effective	tive le ng, Lde length	e n of	_	
ownstream length of two-lane highway within effect of passing lane for percent time-spent-followin length of two-lane highway downstream of effective the passing lane for percent time-spent-following	tive le ng, Lde length	e n of	_	mi mi
Downstream length of two-lane highway within effect of passing lane for percent time-spent-followin length of two-lane highway downstream of effective the passing lane for percent time-spent-followin adj. factor for the effect of passing lane	tive le ng, Lde length	e n of	_	
Downstream length of two-lane highway within effect of passing lane for percent time-spent-followin length of two-lane highway downstream of effective the passing lane for percent time-spent-followin adj. factor for the effect of passing lane on percent time-spent-following, fpl	tive le ng, Lde length	e n of	_	
Downstream length of two-lane highway within effect of passing lane for percent time-spent-followin length of two-lane highway downstream of effective the passing lane for percent time-spent-followin adj. factor for the effect of passing lane on percent time-spent-following, fpl Percent time-spent-following	tive le ng, Lde length	e n of	_	
Downstream length of two-lane highway within effect of passing lane for percent time-spent-followin length of two-lane highway downstream of effective the passing lane for percent time-spent-followin adj. factor for the effect of passing lane on percent time-spent-following, fpl	tive le ng, Lde length	e n of	_	
Downstream length of two-lane highway within effect of passing lane for percent time-spent-followin length of two-lane highway downstream of effective the passing lane for percent time-spent-followin adj. factor for the effect of passing lane on percent time-spent-following, fpl Percent time-spent-following	tive le ng, Lde length ing, Lo	e n of d	- - -	mi %
Downstream length of two-lane highway within effect of passing lane for percent time-spent-followin Length of two-lane highway downstream of effective the passing lane for percent time-spent-followin Adj. factor for the effect of passing lane on percent time-spent-following, fpl Percent time-spent-following including passing lane, PTSFpl Level of Service and Other Performance Measure	tive le ng, Lde length ing, Lo res wit	e n of d	- - -	mi %
Downstream length of two-lane highway within effect of passing lane for percent time-spent-followin Length of two-lane highway downstream of effective the passing lane for percent time-spent-followin Adj. factor for the effect of passing lane on percent time-spent-following, fpl Dercent time-spent-following including passing lane, PTSFpl Level of Service and Other Performance Measure Level of service including passing lane, LOSpl	tive le ng, Lde length ing, Lo	e of d	- - assing	mi %
<pre>Downstream length of two-lane highway within effect of passing lane for percent time-spent-following length of two-lane highway downstream of effective the passing lane for percent time-spent-following adj. factor for the effect of passing lane on percent time-spent-following, fpl Dercent time-spent-following including passing lane, PTSFpl Level of Service and Other Performance Measure</pre>	tive le ng, Lde length ing, Lo res wit	e of d	- - -	mi %

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	1397.7
Effective width of outside lane, We	28.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	3.51
Bicycle LOS	D

- 1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific dewngrade segments are treated as level terrain.
- 2. If vi (vd or vo) >= 1,700 pc/h, terminate analysis-the LOS is F.
- 3. For the analysis direction only and for v>200 veh/h.
- 4. For the analysis direction only.
- 5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.
- * These items have been entered or edited to override calculated value

Phone: Fax: E-Mail: _____Directional Two-Lane Highway Segment Analysis______ Analyst DRR Agency/Co. CTG Date Performed 2019-08-06 Analysis Time Period Friday PM Peak Hour Silverado Trail NB Highway Silverado North of Project From/To Jurisdiction Napa Co Analysis Year Existing with Project Description Paraduxx Winery _____Input Data_____ Peak hour factor, PHF 0.97 Highway class Class 1 Shoulder width 8.0 ft % Trucks and buses 5 % 12.0ft% Trucks crawling0.01.5miTruck crawl speed0.0Level% Recreational vehicles2 Lane width 0.0 % 0.0 Segment length mi/hr Level Terrain type % - mi % No-passing zones 85 - % Access point density 9 Grade: Length % Up/down /mi Analysis direction volume, Vd 551 veh/h Opposing direction volume, Vo 1268 veh/h _____Average Travel Speed____ Direction Analysis(d) Opposing (o) PCE for trucks, ET 1.1* 1.0 PCE for RVs, ER 1.0* 1.0 Heavy-vehicle adj. factor,(note-5) fHV 0.995 1.000 1.00 Grade adj. factor,(note-1) fg 1.00 571 pc/h Directional flow rate, (note-2) vi 1307 pc/h Free-Flow Speed from Field Measurement: Field measured speed, (note-3) S FM mi/h _ Observed total demand, (note-3) V veh/h Estimated Free-Flow Speed: Base free-flow speed, (note-3) BFFS 55.0 mi/h Adj. for lane and shoulder width, (note-3) fLS 0.0 mi/h Adj. for access point density,(note-3) fA 2.3 mi/h Free-flow speed, FFSd 52.8 mi/h mi/h Adjustment for no-passing zones, fnp 0.8 Average travel speed, ATSd 37.4 mi/h Percent Free Flow Speed, PFFS 70.8 %

Direction Analysis(d)		Oppos	ina (0)
PCE for trucks, ET 1.0				0 /
PCE for RVs, ER 1.0			.0	
Heavy-vehicle adjustment factor, fHV 1.000			.000	
Grade adjustment factor, (note-1) fg 1.00			.00	
	c/h		307	pc/h
Base percent time-spent-following,(note-4) BPTSFd		~ ~		20/11
Adjustment for no-passing zones, fnp	15.8	0		
Percent time-spent-following, PTSFd	69.3	00		
Level of Service and Other Perform	ance Me	asures	8	
	Ð			
Level of service, LOS	E			
olume to capacity ratio, v/c	0.33	- 1-		
eak 15-min vehicle-miles of travel, VMT15	213	veh-		
Peak-hour vehicle-miles of travel, VMT60	827	veh-		
Peak 15-min total travel time, TT15	5.7	veh-		
Capacity from ATS, CdATS	1700	veh/		
Capacity from PTSF, CdPTSF	1700	veh/		
Directional Capacity	1700	veh/	h	
Passing Lane Analysis				
otal length of analysis segment, Lt		1.	5	mi
ength of two-lane highway upstream of the passing	lane,			mi
ength of passing lane including tapers, Lpl	,	-		mi
verage travel speed, ATSd (from above)		37	.4	mi/h
Percent time-spent-following, PTSFd (from above)			.3	
Level of service, LOSd (from above)		Ē	• 5	
Average Travel Speed with Pass	ing Ian	0		
Average fraver speed with Pass	IIIY LAII	e		
length of passing lane for average travel spee	d, Lde	_		mi
length of passing lane for average travel spee ength of two-lane highway downstream of effective	d, Lde	-		mi
length of passing lane for average travel spee ength of two-lane highway downstream of effective length of the passing lane for average travel	d, Lde	- Ld -		mi mi
<pre>length of passing lane for average travel spee ength of two-lane highway downstream of effective length of the passing lane for average travel dj. factor for the effect of passing lane</pre>	d, Lde	- Ld -		
<pre>length of passing lane for average travel spee ength of two-lane highway downstream of effective length of the passing lane for average travel dj. factor for the effect of passing lane on average speed, fpl</pre>	d, Lde	- Ld - -		
<pre>length of passing lane for average travel spee ength of two-lane highway downstream of effective length of the passing lane for average travel dj. factor for the effect of passing lane on average speed, fpl</pre>	d, Lde	- Ld - -		
<pre>length of passing lane for average travel spee ength of two-lane highway downstream of effective length of the passing lane for average travel dj. factor for the effect of passing lane on average speed, fpl .verage travel speed including passing lane, ATSpl</pre>	d, Lde speed,	- Ld - - 0.	0	
<pre>length of passing lane for average travel spee ength of two-lane highway downstream of effective length of the passing lane for average travel adj. factor for the effect of passing lane on average speed, fpl average travel speed including passing lane, ATSpl</pre>	d, Lde speed, FSpl	- - 0.		mi %
<pre>length of passing lane for average travel spee ength of two-lane highway downstream of effective length of the passing lane for average travel adj. factor for the effect of passing lane on average speed, fpl average travel speed including passing lane, ATSpl Percent free flow speed including passing lane, PF Percent Time-Spent-Following with</pre>	d, Lde speed, FSpl Passing	- 0. Lane_		mi %
<pre>length of passing lane for average travel spee ength of two-lane highway downstream of effective length of the passing lane for average travel adj. factor for the effect of passing lane on average speed, fpl average travel speed including passing lane, ATSpl ercent free flow speed including passing lane, PF Percent Time-Spent-Following with pownstream length of two-lane highway within effec</pre>	d, Lde speed, FSpl Passing tive le	- 0. Lane_ ngth		mi %
<pre>length of passing lane for average travel spee ength of two-lane highway downstream of effective length of the passing lane for average travel dj. factor for the effect of passing lane on average speed, fpl verage travel speed including passing lane, ATSpl ercent free flow speed including passing lane, PF Percent Time-Spent-Following with ownstream length of two-lane highway within effec of passing lane for percent time-spent-followi</pre>	d, Lde speed, FSpl Passing tive le ng, Lde	- 0. Lane_ ngth -		mi %
<pre>length of passing lane for average travel spee ength of two-lane highway downstream of effective length of the passing lane for average travel dj. factor for the effect of passing lane on average speed, fpl .verage travel speed including passing lane, ATSpl ercent free flow speed including passing lane, PF Percent Time-Spent-Following with townstream length of two-lane highway within effec of passing lane for percent time-spent-followi ength of two-lane highway downstream of effective</pre>	d, Lde speed, FSpl Passing tive le ng, Lde length	Lane_ ngth_		mi %
<pre>length of passing lane for average travel spee ength of two-lane highway downstream of effective length of the passing lane for average travel dj. factor for the effect of passing lane on average speed, fpl verage travel speed including passing lane, ATSpl ercent free flow speed including passing lane, PF Percent Time-Spent-Following with ownstream length of two-lane highway within effec of passing lane for percent time-spent-followi ength of two-lane highway downstream of effective the passing lane for percent time-spent-followi</pre>	d, Lde speed, FSpl Passing tive le ng, Lde length	Lane_ ngth_		mi %
<pre>length of passing lane for average travel spee ength of two-lane highway downstream of effective length of the passing lane for average travel dj. factor for the effect of passing lane on average speed, fpl verage travel speed including passing lane, ATSpl ercent free flow speed including passing lane, PF Percent Time-Spent-Following with cownstream length of two-lane highway within effec of passing lane for percent time-spent-following the passing lane for percent time-spent-following the passing lane for percent time-spent-following dj. factor for the effect of passing lane</pre>	d, Lde speed, FSpl Passing tive le ng, Lde length	Lane_ ngth_		mi %
<pre>length of passing lane for average travel spee ength of two-lane highway downstream of effective length of the passing lane for average travel adj. factor for the effect of passing lane on average speed, fpl average travel speed including passing lane, ATSpl percent free flow speed including passing lane, PF Percent Time-Spent-Following with pownstream length of two-lane highway within effec of passing lane for percent time-spent-following ength of two-lane highway downstream of effective the passing lane for percent time-spent-following dj. factor for the effect of passing lane on percent time-spent-following, fpl</pre>	d, Lde speed, FSpl Passing tive le ng, Lde length	Lane_ ngth_		mi %
<pre>length of passing lane for average travel spee ength of two-lane highway downstream of effective length of the passing lane for average travel dj. factor for the effect of passing lane on average speed, fpl verage travel speed including passing lane, ATSpl ercent free flow speed including passing lane, PF Percent Time-Spent-Following with pownstream length of two-lane highway within effec of passing lane for percent time-spent-following ength of two-lane highway downstream of effective the passing lane for percent time-spent-following dj. factor for the effect of passing lane on percent time-spent-following, fpl</pre>	d, Lde speed, FSpl Passing tive le ng, Lde length	Lane_ ngth_		mi %
<pre>length of passing lane for average travel spee ength of two-lane highway downstream of effective length of the passing lane for average travel dj. factor for the effect of passing lane on average speed, fpl verage travel speed including passing lane, ATSpl ercent free flow speed including passing lane, PF Percent Time-Spent-Following with ownstream length of two-lane highway within effec of passing lane for percent time-spent-followi ength of two-lane highway downstream of effective the passing lane for percent time-spent-follow dj. factor for the effect of passing lane on percent time-spent-following, fpl ercent time-spent-following</pre>	d, Lde speed, FSpl Passing tive le ng, Lde length ing, Ld	- 0. Lane_ ngth - of - - -		mi % mi %
<pre>Length of two-lane highway downstream of effective length of the passing lane for average travel Adj. factor for the effect of passing lane on average speed, fpl Average travel speed including passing lane, ATSpl Percent free flow speed including passing lane, PF </pre>	d, Lde speed, FSpl Passing tive le ng, Lde length ing, Ld res wit	- 0. Lane_ ngth - of - - -		mi % mi %
<pre>length of passing lane for average travel spee ength of two-lane highway downstream of effective length of the passing lane for average travel adj. factor for the effect of passing lane on average speed, fpl average travel speed including passing lane, ATSpl percent free flow speed including passing lane, PF Percent Time-Spent-Following with bownstream length of two-lane highway within effec of passing lane for percent time-spent-following ength of two-lane highway downstream of effective the passing lane for percent time-spent-following adj. factor for the effect of passing lane on percent time-spent-following, fpl Percent time-spent-following including passing lane, PTSFpl Level of Service and Other Performance Measu evel of service including passing lane, LOSpl</pre>	d, Lde speed, FSpl Passing tive le ng, Lde length ing, Ld	Lane_ ngth of - - h Pass	ing L	mi % mi %
<pre>length of passing lane for average travel spee ength of two-lane highway downstream of effective length of the passing lane for average travel dj. factor for the effect of passing lane on average speed, fpl verage travel speed including passing lane, ATSpl ercent free flow speed including passing lane, PF Percent Time-Spent-Following with pownstream length of two-lane highway within effec of passing lane for percent time-spent-followi ength of two-lane highway downstream of effective the passing lane for percent time-spent-followi dj. factor for the effect of passing lane on percent time-spent-following, fpl ercent time-spent-following including passing lane, PTSFpl Level of Service and Other Performance Measu</pre>	d, Lde speed, FSpl Passing tive le ng, Lde length ing, Ld res wit	- 0. Lane_ ngth - of - - -	ing L	mi % mi %

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	568.0
Effective width of outside lane, We	28.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	3.05
Bicycle LOS	С

- 1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific dewngrade segments are treated as level terrain.
- 2. If vi (vd or vo) >= 1,700 pc/h, terminate analysis-the LOS is F.
- 3. For the analysis direction only and for v>200 veh/h.
- 4. For the analysis direction only.
- 5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.
- * These items have been entered or edited to override calculated value

Phone: Fax: E-Mail: _____Directional Two-Lane Highway Segment Analysis______ Analyst DRR Agency/Co. CTG Date Performed 2019-08-06 Analysis Time Period Friday PM Peak Hour Silverado Trail NB Highway Silverado South of Project From/To Jurisdiction Napa Co Analysis Year Existing with Project Description Paraduxx Winery _____Input Data_____ Peak hour factor, PHF 0.97 Highway class Class 1 Shoulder width 8.0 ft % Trucks and buses 5 % 12.0ft% Trucks crawling0.8miTruck crawl speedLevel% Recreational vehi Lane width 0.0 % Segment length 0.0 mi/hr % Recreational vehicles 2 Terrain type 8 - mi % No-passing zones 50 - % Access point density 12 Grade: Length % Up/down /mi Analysis direction volume, Vd 551 veh/h Opposing direction volume, Vo 1282 veh/h _____Average Travel Speed____ Direction Analysis(d) Opposing (o) PCE for trucks, ET 1.1* 1.0 PCE for RVs, ER 1.0* 1.0 Heavy-vehicle adj. factor,(note-5) fHV 0.995 1.000 Grade adj. factor, (note-1) fg 1.00 1.00 571 pc/h Directional flow rate, (note-2) vi 1322 pc/h Free-Flow Speed from Field Measurement: Field measured speed, (note-3) S FM mi/h _ Observed total demand, (note-3) V veh/h Estimated Free-Flow Speed: Base free-flow speed, (note-3) BFFS 55.0 mi/h Adj. for lane and shoulder width, (note-3) fLS 0.0 mi/h Adj. for access point density,(note-3) fA 3.0 mi/h Free-flow speed, FFSd 52.0 mi/h mi/h Adjustment for no-passing zones, fnp 0.6 Average travel speed, ATSd 36.7 mi/h Percent Free Flow Speed, PFFS 70.7 ŝ

Direction Analysis(d)	0000	osing	(o)
PCE for trucks, ET 1.0		OPPC	1.0	(0)
CE for RVs, ER 1.0			1.0	
eavy-vehicle adjustment factor, fHV 1.000			1.000	
rade adjustment factor, (note-1) fg 1.00			1.00	
	pc/h		1322	pc/h
ase percent time-spent-following,(note-4) BPTSF	d 64.5	olo		
djustment for no-passing zones, fnp	13.8			
ercent time-spent-following, PTSFd	68.6	010		
Level of Service and Other Perfo	rmance M	easure	es	
evel of service, LOS	Е			
olume to capacity ratio, v/c	0.33			
eak 15-min vehicle-miles of travel, VMT15	114	veł	ı-mi	
eak-hour vehicle-miles of travel, VMT60	441		ı-mi	
eak 15-min total travel time, TT15	3.1		1-111 1-h	
apacity from ATS, CdATS	1700		ı/h	
apacity from PTSF, CdPTSF	1700	vel		
irectional Capacity	1700	veł	ı/h	
Passing Lane Analys	is			
otal length of analysis segment, Lt		().8	mi
ength of two-lane highway upstream of the passi	ng lane.		-	mi
ength of passing lane including tapers, Lpl			_	mi
verage travel speed, ATSd (from above)		-	36.7	mi/h
				111 / 11
ercent time-spent-following, PTSFd (from above)			58.6	
evel of service, LOSd (from above)		E	Ľ	
Average Travel Speed with Pa	ssing La	ne		
		ne		
ownstream length of two-lane highway within eff	ective			
ownstream length of two-lane highway within eff length of passing lane for average travel sp	ective eed, Lde			
ownstream length of two-lane highway within eff length of passing lane for average travel sp ength of two-lane highway downstream of effecti	ective eed, Lde ve	-	-	mi
ownstream length of two-lane highway within eff length of passing lane for average travel sp ength of two-lane highway downstream of effecti length of the passing lane for average trave	ective eed, Lde ve	-	-	
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<pre>ownstream length of two-lane highway within eff length of passing lane for average travel sp ength of two-lane highway downstream of effecti length of the passing lane for average trave dj. factor for the effect of passing lane on average speed, fpl verage travel speed including passing lane, ATS ercent free flow speed including passing lane, Percent Time-Spent-Following wit ownstream length of two-lane highway within eff of passing lane for percent time-spent-follo ength of two-lane highway downstream of effecti the passing lane for percent time-spent-foll dj. factor for the effect of passing lane on percent time-spent-following, fpl ercent time-spent-following including passing lane, PTSFpl Level of Service and Other Performance Mea</pre>	ective eed, Lde ve l speed, pl PFFSpl h Passin ective l wing, Ld ve lengt owing, L	Ld - - - g Lane ength e - h of d -	- - - - - - -	mi mi % mi %
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Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	568.0
Effective width of outside lane, We	28.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	3.05
Bicycle LOS	С

- 1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific dewngrade segments are treated as level terrain.
- 2. If vi (vd or vo) >= 1,700 pc/h, terminate analysis-the LOS is F.
- 3. For the analysis direction only and for v>200 veh/h.
- 4. For the analysis direction only.
- 5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.
- * These items have been entered or edited to override calculated value

Phone: Fax: E-Mail: _____Directional Two-Lane Highway Segment Analysis______ Analyst DRR Agency/Co. CTG Date Performed 2019-08-06 Analysis Time Period Friday PM Peak Hour Silverado Trail SB Highway Silverado North of Project From/To Jurisdiction Napa Co Analysis Year Existing with Project Description Paraduxx Winery _____Input Data_____ Peak hour factor, PHF 0.97 Highway class Class 1 Shoulder width 8.0 ft % Trucks and buses 5 % 12.0ft% Trucks crawling0.01.5miTruck crawl speed0.0Level% Recreational vehicles2 Lane width 0.0 % Segment length 0.0 mi/hr Level % Terrain type - mi % No-passing zones 70 - % Access point density 9 Grade: Length % Up/down /mi Analysis direction volume, Vd 1268 veh/h Opposing direction volume, Vo 551 veh/h _____Average Travel Speed____ Direction Opposing (o) Analysis(d) PCE for trucks, ET 1.1* 1.1 PCE for RVs, ER 1.0* 1.0 Heavy-vehicle adj. factor,(note-5) fHV 0.995 0.995 Grade adj. factor,(note-1) fg 1.00 1.00 1314 pc/h Directional flow rate, (note-2) vi 571 pc/h Free-Flow Speed from Field Measurement: Field measured speed, (note-3) S FM mi/h Observed total demand, (note-3) V _ veh/h Estimated Free-Flow Speed: Base free-flow speed, (note-3) BFFS 55.0 mi/h Adj. for lane and shoulder width, (note-3) fLS 0.0 mi/h Adj. for access point density,(note-3) fA 2.3 mi/h Free-flow speed, FFSd 52.8 mi/h mi/h Adjustment for no-passing zones, fnp 1.8 Average travel speed, ATSd 36.4 mi/h Percent Free Flow Speed, PFFS 68.9 %

	ng		
Direction Analysis(d)	0.	pposing	(0)
PCE for trucks, ET 1.0	0.	1.0	(0)
PCE for RVs, ER 1.0		1.0	
Eavy-vehicle adjustment factor, fHV 1.000		1.000	
rade adjustment factor, (note-1) fg 1.00		1.00	
	/h	568	pc/h
ase percent time-spent-following,(note-4) BPTSFd {			20/11
	15.3		
	92.2 %		
Level of Service and Other Performan	nce Meas	ures	
	_		
•	E		
	0.77		
		veh-mi	
		veh-mi	
		veh-h	
		veh/h	
		veh/h	
irectional Capacity	1700	veh/h	
Passing Lane Analysis			
otal length of analysis segment, Lt		1.5	mi
ength of two-lane highway upstream of the passing 1	lane, Lu		mi
ength of passing lane including tapers, Lpl		_	mi
verage travel speed, ATSd (from above)		36.4	mi/h
ercent time-spent-following, PTSFd (from above)		92.2	
evel of service, LOSd (from above)		E	
Average Travel Speed with Passin	ng Lane		
	5		
length of passing lane for average travel speed		_	mi
length of passing lane for average travel speed ength of two-lane highway downstream of effective	, Lde	_	
length of passing lane for average travel speed ength of two-lane highway downstream of effective length of the passing lane for average travel sp	, Lde	-	mi mi
<pre>length of passing lane for average travel speed ength of two-lane highway downstream of effective length of the passing lane for average travel sp dj. factor for the effect of passing lane</pre>	, Lde	-	
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<pre>length of passing lane for average travel speed ength of two-lane highway downstream of effective length of the passing lane for average travel sp dj. factor for the effect of passing lane on average speed, fpl verage travel speed including passing lane, ATSpl ercent free flow speed including passing lane, PFFS Percent Time-Spent-Following with Pa ownstream length of two-lane highway within effects of passing lane for percent time-spent-following ength of two-lane highway downstream of effective is the passing lane for percent time-spent-following dj. factor for the effect of passing lane on percent time-spent-following, fpl</pre>	, Lde peed, Ld Spl assing L ive leng g, Lde length o	- 0.0 ane th -	mi %
<pre>length of passing lane for average travel speed ength of two-lane highway downstream of effective length of the passing lane for average travel sp dj. factor for the effect of passing lane on average speed, fpl verage travel speed including passing lane, ATSpl ercent free flow speed including passing lane, PFFS Percent Time-Spent-Following with Pa ownstream length of two-lane highway within effects of passing lane for percent time-spent-following ength of two-lane highway downstream of effective is the passing lane for percent time-spent-following dj. factor for the effect of passing lane on percent time-spent-following, fpl</pre>	, Lde peed, Ld Spl assing L ive leng g, Lde length o	- 0.0 ane th -	mi %
<pre>length of passing lane for average travel speed ength of two-lane highway downstream of effective length of the passing lane for average travel sp dj. factor for the effect of passing lane on average speed, fpl verage travel speed including passing lane, ATSpl ercent free flow speed including passing lane, PFFS Percent Time-Spent-Following with Pa ownstream length of two-lane highway within effect: of passing lane for percent time-spent-following ength of two-lane highway downstream of effective is the passing lane for percent time-spent-following dj. factor for the effect of passing lane on percent time-spent-following, fpl ercent time-spent-following</pre>	, Lde peed, Ld Spl assing L ive leng g, Lde length o ng, Ld	- 0.0 ane th _ f _ - _	mi % mi %
<pre>ength of two-lane highway downstream of effective length of the passing lane for average travel sp adj. factor for the effect of passing lane on average speed, fpl average travel speed including passing lane, ATSpl percent free flow speed including passing lane, PFFS Percent Time-Spent-Following with Pa bownstream length of two-lane highway within effect: of passing lane for percent time-spent-following ength of two-lane highway downstream of effective is the passing lane for percent time-spent-following dj. factor for the effect of passing lane on percent time-spent-following, fpl Percent time-spent-following including passing lane, PTSFpl Level of Service and Other Performance Measure</pre>	, Lde peed, Ld Spl assing L ive leng g, Lde length o ng, Ld	- 0.0 ane th _ f _ - _	mi % mi %
<pre>length of passing lane for average travel speed ength of two-lane highway downstream of effective length of the passing lane for average travel sp dj. factor for the effect of passing lane on average speed, fpl verage travel speed including passing lane, ATSpl ercent free flow speed including passing lane, PFFS Percent Time-Spent-Following with Pa ownstream length of two-lane highway within effects of passing lane for percent time-spent-following ength of two-lane highway downstream of effective is the passing lane for percent time-spent-following dj. factor for the effect of passing lane on percent time-spent-following, fpl ercent time-spent-following including passing lane, PTSFpl Level of Service and Other Performance Measure evel of service including passing lane, LOSpl</pre>	, Lde peed, Ld Spl assing L ive leng g, Lde length o ng, Ld es with	- 0.0 ane th _ f _ Passing	mi % mi %
<pre>length of passing lane for average travel speed ength of two-lane highway downstream of effective length of the passing lane for average travel sp dj. factor for the effect of passing lane on average speed, fpl verage travel speed including passing lane, ATSpl ercent free flow speed including passing lane, PFFS Percent Time-Spent-Following with Pa ownstream length of two-lane highway within effect: of passing lane for percent time-spent-following ength of two-lane highway downstream of effective is the passing lane for percent time-spent-following dj. factor for the effect of passing lane on percent time-spent-following, fpl ercent time-spent-following including passing lane, PTSFpl Level of Service and Other Performance Measured</pre>	, Lde peed, Ld Spl assing L ive leng g, Lde length o ng, Ld es with	- 0.0 ane th _ f _ - _	mi % mi %

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	1307.2
Effective width of outside lane, We	28.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	3.47
Bicycle LOS	С

- 1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific dewngrade segments are treated as level terrain.
- 2. If vi (vd or vo) >= 1,700 pc/h, terminate analysis-the LOS is F.
- 3. For the analysis direction only and for v>200 veh/h.
- 4. For the analysis direction only.
- 5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.
- * These items have been entered or edited to override calculated value

Phone: Fax: E-Mail: _____Directional Two-Lane Highway Segment Analysis______ Analyst DRR Agency/Co. CTG Date Performed 2019-08-06 Analysis Time Period Friday PM Peak Hour Silverado Trail SB Highway Silverado South of Project From/To Jurisdiction Napa Co Analysis Year Existing with Project Description Paraduxx Winery _____Input Data_____ Peak hour factor, PHF 0.97 Highway class Class 1 Shoulder width 8.0 ft % Trucks and buses 5 % 12.0ft% Trucks crawling0.8miTruck crawl speedLevel% Recreational vehi Lane width 0.0 % Segment length 0.0 mi/hr % Recreational vehicles 2 Terrain type 8 % No-passing zones 100 Access point density 12 Grade: Length - mi 8 00 Up/down _ /mi Analysis direction volume, Vd 1282 veh/h Opposing direction volume, Vo 551 veh/h _____Average Travel Speed____ Direction Opposing (o) Analysis(d) PCE for trucks, ET 1.1* 1.1 PCE for RVs, ER 1.0* 1.0 Heavy-vehicle adj. factor,(note-5) fHV 0.995 0.995 Grade adj. factor,(note-1) fg 1.00 1.00 1328 pc/h Directional flow rate, (note-2) vi 571 pc/h Free-Flow Speed from Field Measurement: Field measured speed, (note-3) S FM mi/h Observed total demand, (note-3) V _ veh/h Estimated Free-Flow Speed: Base free-flow speed, (note-3) BFFS 55.0 mi/h Adj. for lane and shoulder width, (note-3) fLS 0.0 mi/h Adj. for access point density,(note-3) fA 3.0 mi/h Free-flow speed, FFSd 52.0 mi/h 2.0 mi/h Adjustment for no-passing zones, fnp Average travel speed, ATSd 35.2 mi/h Percent Free Flow Speed, PFFS 67.8 %

	.ng			
Direction Analysis(d)		000	osing	(0)
PCE for trucks, ET 1.0		OPP	1.0	(0)
PCE for RVs, ER 1.0			1.0	
Heavy-vehicle adjustment factor, fHV 1.000			1.000	1
Grade adjustment factor, (note-1) fg 1.00			1.00	
	c∕h		568	pc/h
Base percent time-spent-following,(note-4) BPTSFd		00	500	20/11
	15.9	0		
	92.9	olo		
Level of Service and Other Performa	ance Me	asur	es	
Level of service, LOS	E			
	0.78			
	264	νe	h-mi	
	1026		h-mi	
	7.5		h-h	
	1700		h/h	
	1700		h/h	
Directional Capacity	1700	ve.	h/h	
Passing Lane Analysis_				
'otal length of analysis segment, Lt			0.8	mi
ength of two-lane highway upstream of the passing	lane.		_	mi
ength of passing lane including tapers, Lpl	,		_	mi
verage travel speed, ATSd (from above)			35.2	mi/h
Percent time-spent-following, PTSFd (from above)			92.9	
Level of service, LOSd (from above)			52.9 E	
	_			
Average Travel Speed with Passi	.ng Lan	e		
length of passing lane for average travel speed			_	mi
length of passing lane for average travel speed			-	mi
length of passing lane for average travel speed	l, Lde	Ld	_	mi mi
length of passing lane for average travel speed ength of two-lane highway downstream of effective length of the passing lane for average travel s	l, Lde	Ld	_	
length of passing lane for average travel speed ength of two-lane highway downstream of effective length of the passing lane for average travel s	l, Lde	Ld	-	
<pre>length of passing lane for average travel speed ength of two-lane highway downstream of effective length of the passing lane for average travel s dj. factor for the effect of passing lane on average speed, fpl</pre>	l, Lde	Ld	-	
<pre>length of passing lane for average travel speed ength of two-lane highway downstream of effective length of the passing lane for average travel s adj. factor for the effect of passing lane on average speed, fpl average travel speed including passing lane, ATSpl</pre>	l, Lde speed,		- - - 0.0	
<pre>length of passing lane for average travel speed ength of two-lane highway downstream of effective length of the passing lane for average travel s adj. factor for the effect of passing lane on average speed, fpl average travel speed including passing lane, ATSpl</pre>	l, Lde speed, Spl		- - 0.0	mi %
<pre>length of passing lane for average travel speed length of two-lane highway downstream of effective length of the passing lane for average travel s adj. factor for the effect of passing lane on average speed, fpl average travel speed including passing lane, ATSpl Percent free flow speed including passing lane, PFF </pre>	l, Lde speed, Spl Passing	Lan	- - 0.0 e	mi %
<pre>length of passing lane for average travel speed ength of two-lane highway downstream of effective length of the passing lane for average travel s adj. factor for the effect of passing lane on average speed, fpl average travel speed including passing lane, ATSpl Percent free flow speed including passing lane, PFF Percent Time-Spent-Following with P pownstream length of two-lane highway within effect</pre>	l, Lde speed, Spl Passing	Lan	- - 0.0 e	mi %
<pre>length of passing lane for average travel speed ength of two-lane highway downstream of effective length of the passing lane for average travel s adj. factor for the effect of passing lane on average speed, fpl average travel speed including passing lane, ATSpl Percent free flow speed including passing lane, PFF Percent Time-Spent-Following with P ownstream length of two-lane highway within effect of passing lane for percent time-spent-following</pre>	d, Lde speed, Spl Passing tive le	Lan	- - 0.0 e	mi %
<pre>length of passing lane for average travel speed ength of two-lane highway downstream of effective length of the passing lane for average travel s adj. factor for the effect of passing lane on average speed, fpl average travel speed including passing lane, ATSpl percent free flow speed including passing lane, PFF Percent Time-Spent-Following with P pownstream length of two-lane highway within effect of passing lane for percent time-spent-following ength of two-lane highway downstream of effective</pre>	d, Lde speed, Spl Passing tive le ng, Lde length	Lan ngth of	- - 0.0 e	mi %
<pre>length of passing lane for average travel speed ength of two-lane highway downstream of effective length of the passing lane for average travel s adj. factor for the effect of passing lane on average speed, fpl average travel speed including passing lane, ATSpl ercent free flow speed including passing lane, PFF Percent Time-Spent-Following with P pownstream length of two-lane highway within effect of passing lane for percent time-spent-followin ength of two-lane highway downstream of effective the passing lane for percent time-spent-followin</pre>	d, Lde speed, Spl Passing tive le ng, Lde length	Lan ngth of	- - 0.0 e	mi %
<pre>length of passing lane for average travel speed ength of two-lane highway downstream of effective length of the passing lane for average travel s adj. factor for the effect of passing lane on average speed, fpl average travel speed including passing lane, ATSpl Percent free flow speed including passing lane, PFF </pre>	d, Lde speed, Spl Passing tive le ng, Lde length	Lan ngth of	- - 0.0 e	mi %
<pre>length of passing lane for average travel speed ength of two-lane highway downstream of effective length of the passing lane for average travel s adj. factor for the effect of passing lane on average speed, fpl average travel speed including passing lane, ATSpl Percent free flow speed including passing lane, PFF </pre>	d, Lde speed, Spl Passing tive le ng, Lde length	Lan ngth of	- - 0.0 e	mi %
<pre>length of passing lane for average travel speed ength of two-lane highway downstream of effective length of the passing lane for average travel s adj. factor for the effect of passing lane on average speed, fpl average travel speed including passing lane, ATSpl Percent free flow speed including passing lane, PFF </pre>	d, Lde speed, Spl Passing tive le ng, Lde length	Lan ngth of	- - 0.0 e	mi %
<pre>length of passing lane for average travel speed ength of two-lane highway downstream of effective length of the passing lane for average travel s adj. factor for the effect of passing lane on average speed, fpl average travel speed including passing lane, ATSpl Percent free flow speed including passing lane, PFF Percent Time-Spent-Following with P oownstream length of two-lane highway within effect of passing lane for percent time-spent-followin ength of two-lane highway downstream of effective the passing lane for percent time-spent-followin dj. factor for the effect of passing lane on percent time-spent-following, fpl percent time-spent-following</pre>	d, Lde speed, Spl assing tive le ig, Lde length .ng, Ld	Lan ngth of	- - e - - -	mi % mi %
<pre>Length of two-lane highway downstream of effective length of the passing lane for average travel s Adj. factor for the effect of passing lane on average speed, fpl Average travel speed including passing lane, ATSpl Percent free flow speed including passing lane, PFF </pre>	d, Lde speed, Spl assing tive le ig, Lde length .ng, Ld	Lan ngth of	- - e - - -	mi % mi %
<pre>length of passing lane for average travel speed ength of two-lane highway downstream of effective length of the passing lane for average travel s adj. factor for the effect of passing lane on average speed, fpl average travel speed including passing lane, ATSpl Percent free flow speed including passing lane, PFF Percent Time-Spent-Following with P pownstream length of two-lane highway within effect of passing lane for percent time-spent-followin ength of two-lane highway downstream of effective the passing lane for percent time-spent-followin adj. factor for the effect of passing lane on percent time-spent-following, fpl Percent time-spent-following including passing lane, PTSFpl</pre>	d, Lde speed, Spl assing tive le ig, Lde length .ng, Ld	Lan ngth of	- - e - - -	mi % mi %
<pre>length of passing lane for average travel speed ength of two-lane highway downstream of effective length of the passing lane for average travel s adj. factor for the effect of passing lane on average speed, fpl verage travel speed including passing lane, ATSpl ercent free flow speed including passing lane, PFF </pre>	d, Lde speed, Spl Passing tive le ng, Lde length ng, Ld	Lan ngth of h Pa	- - e - - -	mi % mi %

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	1321.6
Effective width of outside lane, We	28.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	3.48
Bicycle LOS	С

- 1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific dewngrade segments are treated as level terrain.
- 2. If vi (vd or vo) >= 1,700 pc/h, terminate analysis-the LOS is F.
- 3. For the analysis direction only and for v>200 veh/h.
- 4. For the analysis direction only.
- 5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.
- * These items have been entered or edited to override calculated value

Phone: Fax: E-Mail: _____Directional Two-Lane Highway Segment Analysis______ Analyst DRR Agency/Co. CTG Agency, eetDate Performed2019-08-06Analysis Time PeriodSaturday PM Peak HourClassic Tracide Tr Highway Silverado Trail NB Silverado North of Project From/To Jurisdiction Napa Co9 Analysis Year Existing with Project Description Paraduxx Winery _____Input Data_____ Peak hour factor, PHF 0.88 Highway class Class 1 Shoulder width 8.0 ft % Trucks and buses 5 % 12.0ft% Trucks crawling0.01.5miTruck crawl speed0.0Level% Recreational vehicles2 Lane width 0.0 % 0.0 Segment length mi/hr Level Terrain type % - mi % No-passing zones 85 - % Access point density 9 Grade: Length % Up/down /mi Analysis direction volume, Vd 560 veh/h Opposing direction volume, Vo 1090 veh/h _____Average Travel Speed____ Direction Analysis(d) Opposing (o) PCE for trucks, ET 1.1* 1.0 PCE for RVs, ER 1.0* 1.0 Heavy-vehicle adj. factor,(note-5) fHV 0.995 1.000 1.00 Grade adj. factor,(note-1) fg 1.00 640 pc/h Directional flow rate, (note-2) vi 1239 pc/h Free-Flow Speed from Field Measurement: Field measured speed, (note-3) S FM mi/h _ Observed total demand, (note-3) V veh/h Estimated Free-Flow Speed: Base free-flow speed, (note-3) BFFS 55.0 mi/h Adj. for lane and shoulder width, (note-3) fLS 0.0 mi/h Adj. for access point density,(note-3) fA 2.3 mi/h Free-flow speed, FFSd 52.8 mi/h 0.9 mi/h Adjustment for no-passing zones, fnp Average travel speed, ATSd 37.3 mi/h Percent Free Flow Speed, PFFS 70.7 ŝ

	ng		
Direction Analysis(d)	Or	posing (0)
PCE for trucks, ET 1.0	-	1.0	· •
PCE for RVs, ER 1.0		1.0	
Heavy-vehicle adjustment factor, fHV 1.000		1.000	
Grade adjustment factor, (note-1) fg 1.00		1.00	
-	/h	1239	pc/h
Base percent time-spent-following,(note-4) BPTSFd		1237	PC/11
	17.0		
	73.3 %		
Level of Service and Other Performan		ires	
		<u> </u>	
	E		
	0.37		
•	239 r	veh-mi	
		veh-mi	
eak 15-min total travel time, TT15	б.4 т	veh-h	
apacity from ATS, CdATS	1700 ъ	/h	
	1700 ъ	/h	
		veh/h	
Passing Lane Analysis_			
otal length of analyzic comment It		1.5	mi
otal length of analysis segment, Lt			
ength of two-lane highway upstream of the passing	lane, Lu	-	mi
ength of passing lane including tapers, Lpl		-	mi
verage travel speed, ATSd (from above)		37.3	mi/h
Percent time-spent-following, PTSFd (from above)		73.3	
Level of service, LOSd (from above)		Ε	
Average Travel Speed with Passin	ng Lane		
Downstream length of two-lane highway within effect:	ive		
		_	mi
length of passing lane for average travel speed		_	mi
length of passing lane for average travel speed ength of two-lane highway downstream of effective	, Lde	-	
length of passing lane for average travel speed ength of two-lane highway downstream of effective length of the passing lane for average travel sp	, Lde	-	mi mi
<pre>length of passing lane for average travel speed ength of two-lane highway downstream of effective length of the passing lane for average travel sp adj. factor for the effect of passing lane</pre>	, Lde	-	
<pre>length of passing lane for average travel speed ength of two-lane highway downstream of effective length of the passing lane for average travel sp dj. factor for the effect of passing lane on average speed, fpl</pre>	, Lde	-	
<pre>length of passing lane for average travel speed ength of two-lane highway downstream of effective length of the passing lane for average travel sp dj. factor for the effect of passing lane on average speed, fpl average travel speed including passing lane, ATSpl</pre>	, Lde peed, Ld	-	mi
<pre>length of passing lane for average travel speed ength of two-lane highway downstream of effective length of the passing lane for average travel sp adj. factor for the effect of passing lane on average speed, fpl average travel speed including passing lane, ATSpl</pre>	, Lde peed, Ld	- - - 0.0	
<pre>length of passing lane for average travel speed ength of two-lane highway downstream of effective length of the passing lane for average travel sp adj. factor for the effect of passing lane on average speed, fpl average travel speed including passing lane, ATSpl</pre>	, Lde peed, Ld Spl	- - 0.0	mi %
<pre>length of passing lane for average travel speed ength of two-lane highway downstream of effective length of the passing lane for average travel sp adj. factor for the effect of passing lane on average speed, fpl average travel speed including passing lane, ATSpl Percent free flow speed including passing lane, PFF </pre>	, Lde peed, Ld Spl assing La	- 0.0 ane	mi %
<pre>length of passing lane for average travel speed ength of two-lane highway downstream of effective length of the passing lane for average travel sp adj. factor for the effect of passing lane on average speed, fpl average travel speed including passing lane, ATSpl Percent free flow speed including passing lane, PFF Percent Time-Spent-Following with Passing bownstream length of two-lane highway within effect;</pre>	, Lde peed, Ld Spl assing La ive lengt	- 0.0 ane	mi %
<pre>length of passing lane for average travel speed ength of two-lane highway downstream of effective length of the passing lane for average travel sp adj. factor for the effect of passing lane on average speed, fpl average travel speed including passing lane, ATSpl percent free flow speed including passing lane, PFFs Percent Time-Spent-Following with Passing ownstream length of two-lane highway within effects of passing lane for percent time-spent-following</pre>	, Lde peed, Ld Spl assing La ive lengt g, Lde	- 0.0 ane :h	mi %
<pre>length of passing lane for average travel speed ength of two-lane highway downstream of effective length of the passing lane for average travel sp dj. factor for the effect of passing lane on average speed, fpl average travel speed including passing lane, ATSpl ercent free flow speed including passing lane, PFFs Percent Time-Spent-Following with Pa ownstream length of two-lane highway within effect of passing lane for percent time-spent-following ength of two-lane highway downstream of effective</pre>	, Lde peed, Ld Spl assing La ive lengt g, Lde length of	- 0.0 ane :h	mi %
<pre>length of passing lane for average travel speed ength of two-lane highway downstream of effective length of the passing lane for average travel sp dj. factor for the effect of passing lane on average speed, fpl verage travel speed including passing lane, ATSpl ercent free flow speed including passing lane, PFF; Percent Time-Spent-Following with Pa ownstream length of two-lane highway within effect; of passing lane for percent time-spent-following ength of two-lane highway downstream of effective the passing lane for percent time-spent-following</pre>	, Lde peed, Ld Spl assing La ive lengt g, Lde length of	- 0.0 ane :h	mi %
<pre>length of passing lane for average travel speed ength of two-lane highway downstream of effective length of the passing lane for average travel sp dj. factor for the effect of passing lane on average speed, fpl verage travel speed including passing lane, ATSpl ercent free flow speed including passing lane, PFF </pre>	, Lde peed, Ld Spl assing La ive lengt g, Lde length of	- 0.0 ane :h -	mi %
<pre>length of passing lane for average travel speed ength of two-lane highway downstream of effective length of the passing lane for average travel sp dj. factor for the effect of passing lane on average speed, fpl verage travel speed including passing lane, ATSpl ercent free flow speed including passing lane, PFF Percent Time-Spent-Following with Pa ownstream length of two-lane highway within effect of passing lane for percent time-spent-following ength of two-lane highway downstream of effective the passing lane for percent time-spent-following dj. factor for the effect of passing lane on percent time-spent-following, fpl</pre>	, Lde peed, Ld Spl assing La ive lengt g, Lde length of	- 0.0 ane :h -	mi %
<pre>length of passing lane for average travel speed ength of two-lane highway downstream of effective length of the passing lane for average travel sp adj. factor for the effect of passing lane on average speed, fpl average travel speed including passing lane, ATSpl percent free flow speed including passing lane, PFF </pre>	, Lde peed, Ld Spl assing La ive lengt g, Lde length of	- 0.0 ane :h -	mi %
<pre>length of passing lane for average travel speed ength of two-lane highway downstream of effective length of the passing lane for average travel sp adj. factor for the effect of passing lane on average speed, fpl average travel speed including passing lane, ATSpl percent free flow speed including passing lane, PFF Percent Time-Spent-Following with Pa pownstream length of two-lane highway within effects of passing lane for percent time-spent-following ength of two-lane highway downstream of effective the passing lane for percent time-spent-following adj. factor for the effect of passing lane on percent time-spent-following, fpl percent time-spent-following including passing lane, PTSFpl</pre>	, Lde peed, Ld Spl assing La ive lengt g, Lde length of ng, Ld	- 0.0 ane ch - - -	mi % mi %
<pre>length of passing lane for average travel speed length of two-lane highway downstream of effective length of the passing lane for average travel sp adj. factor for the effect of passing lane on average speed, fpl average travel speed including passing lane, ATSpl Dercent free flow speed including passing lane, PFF </pre>	, Lde peed, Ld Spl assing La ive lengt g, Lde length of ng, Ld es with F	- 0.0 ane ch - - -	mi % mi %
<pre>length of passing lane for average travel speed ength of two-lane highway downstream of effective length of the passing lane for average travel sp adj. factor for the effect of passing lane on average speed, fpl verage travel speed including passing lane, ATSpl ercent free flow speed including passing lane, PFF; </pre>	, Lde peed, Ld Spl assing La ive lengt g, Lde length of ng, Ld es with F	- 0.0 ane ch - - - Passing I	mi % mi %
<pre>length of passing lane for average travel speed ength of two-lane highway downstream of effective length of the passing lane for average travel sp dj. factor for the effect of passing lane on average speed, fpl verage travel speed including passing lane, ATSpl ercent free flow speed including passing lane, PFF </pre>	, Lde peed, Ld Spl assing La ive lengt g, Lde length of ng, Ld es with F	- 0.0 ane ch - - -	mi % mi %

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	636.4
Effective width of outside lane, We	28.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	3.11
Bicycle LOS	С

- 1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific dewngrade segments are treated as level terrain.
- 2. If vi (vd or vo) >= 1,700 pc/h, terminate analysis-the LOS is F.
- 3. For the analysis direction only and for v>200 veh/h.
- 4. For the analysis direction only.
- 5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.
- * These items have been entered or edited to override calculated value

Phone: Fax: E-Mail: _____Directional Two-Lane Highway Segment Analysis______ Analyst DRR Agency/Co. CTG Agency, eetDate Performed2019-08-06Analysis Time PeriodSaturday PM Peak HourClassic Tracide Tr Silverado Trail NB Highway Silverado South of Project From/To Jurisdiction Napa Co Analysis Year Existing with Project Description Paraduxx Winery _____Input Data_____ Peak hour factor, PHF 0.88 Highway class Class 1 Shoulder width 8.0 ft % Trucks and buses 5 % 12.0ft% Trucks crawling0.01.5miTruck crawl speed0.0Level% Recreational vehicles2 Lane width 0.0 % Segment length 0.0 mi/hr Level Terrain type 8 - mi % No-passing zones 50 - % Access point density 12 Grade: Length % Access point density 12 Up/down /mi Analysis direction volume, Vd 566 veh/h Opposing direction volume, Vo 1101 veh/h _____Average Travel Speed____ Direction Opposing (o) Analysis(d) PCE for trucks, ET 1.1* 1.0 PCE for RVs, ER 1.0* 1.0 Heavy-vehicle adj. factor,(note-5) fHV 0.995 1.000 1.00 Grade adj. factor,(note-1) fg 1.00 646 pc/h Directional flow rate, (note-2) vi 1251 pc/h Free-Flow Speed from Field Measurement: Field measured speed, (note-3) S FM mi/h Observed total demand, (note-3) V _ veh/h Estimated Free-Flow Speed: Base free-flow speed, (note-3) BFFS 55.0 mi/h Adj. for lane and shoulder width, (note-3) fLS 0.0 mi/h Adj. for access point density,(note-3) fA 3.0 mi/h Free-flow speed, FFSd 52.0 mi/h mi/h Adjustment for no-passing zones, fnp 0.6 Average travel speed, ATSd 36.7 mi/h Percent Free Flow Speed, PFFS 70.6 ŝ

Direction Analysis(d)		aa0	osing	(0)
PCE for trucks, ET 1.0			1.0	
PCE for RVs, ER 1.0			1.0	
Heavy-vehicle adjustment factor, fHV 1.000			1.000	
Grade adjustment factor, (note-1) fg 1.00			1.00	
	c/h		1251	pc/h
Base percent time-spent-following,(note-4) BPTSFd		0/0	1201	20/11
Adjustment for no-passing zones, fnp	15.1	0		
Percent time-spent-following, PTSFd	72.9	00		
Level of Service and Other Perform	ance Me	easur	es	
Level of service, LOS	E			
	£ 0.38			
olume to capacity ratio, v/c			1a	
eak 15-min vehicle-miles of travel, VMT15	241		h-mi	
Peak-hour vehicle-miles of travel, VMT60	849		h-mi	
Peak 15-min total travel time, TT15	6.6		h-h	
Capacity from ATS, CdATS	1700		h/h	
Capacity from PTSF, CdPTSF	1700		h/h	
Directional Capacity	1700	ve	h/h	
Passing Lane Analysis				
otal length of analysis segment, Lt			1.5	mi
ength of two-lane highway upstream of the passing	lane.		_	mi
ength of passing lane including tapers, Lpl	,		_	mi
verage travel speed, ATSd (from above)			36.7	mi/h
Percent time-spent-following, PTSFd (from above)			72.9	
Level of service, LOSd (from above)			E	
Average Travel Speed with Pass	ing Lan	le		
	5			
length of passing lane for average travel speed			-	mi
length of passing lane for average travel speed ength of two-lane highway downstream of effective	d, Lde		_	mi
length of passing lane for average travel speed ength of two-lane highway downstream of effective length of the passing lane for average travel a	d, Lde		-	mi mi
<pre>length of passing lane for average travel speed ength of two-lane highway downstream of effective length of the passing lane for average travel s dj. factor for the effect of passing lane</pre>	d, Lde		_	
<pre>length of passing lane for average travel speed ength of two-lane highway downstream of effective length of the passing lane for average travel a dj. factor for the effect of passing lane on average speed, fpl</pre>	d, Lde		-	
<pre>length of passing lane for average travel speed ength of two-lane highway downstream of effective length of the passing lane for average travel s dj. factor for the effect of passing lane on average speed, fpl</pre>	d, Lde		-	
<pre>length of passing lane for average travel speed ength of two-lane highway downstream of effective length of the passing lane for average travel a dj. factor for the effect of passing lane on average speed, fpl average travel speed including passing lane, ATSpl</pre>	d, Lde speed,	Ld	- - 0.0	
<pre>length of passing lane for average travel speed ength of two-lane highway downstream of effective length of the passing lane for average travel a dj. factor for the effect of passing lane on average speed, fpl average travel speed including passing lane, ATSpl</pre>	d, Lde speed, FSpl	Ld	- - 0.0	mi %
<pre>length of passing lane for average travel speed ength of two-lane highway downstream of effective length of the passing lane for average travel a adj. factor for the effect of passing lane on average speed, fpl average travel speed including passing lane, ATSpl Percent free flow speed including passing lane, PFI </pre>	d, Lde speed, FSpl Passing	Ld Lan	- - 0.0 .e	mi %
<pre>length of passing lane for average travel speed ength of two-lane highway downstream of effective length of the passing lane for average travel a adj. factor for the effect of passing lane on average speed, fpl average travel speed including passing lane, ATSpl ercent free flow speed including passing lane, PFI Percent Time-Spent-Following with in oownstream length of two-lane highway within effect</pre>	d, Lde speed, FSpl Passing tive le	Ld g Lan ength	- - 0.0 .e	mi %
<pre>length of passing lane for average travel speed ength of two-lane highway downstream of effective length of the passing lane for average travel a dj. factor for the effect of passing lane on average speed, fpl average travel speed including passing lane, ATSpl ercent free flow speed including passing lane, PFI Percent Time-Spent-Following with in ownstream length of two-lane highway within effect of passing lane for percent time-spent-following</pre>	d, Lde speed, FSpl Passing tive le ng, Lde	Ld y Lan ength	- - 0.0 .e	mi %
<pre>length of passing lane for average travel speed ength of two-lane highway downstream of effective length of the passing lane for average travel a dj. factor for the effect of passing lane on average speed, fpl verage travel speed including passing lane, ATSpl ercent free flow speed including passing lane, PFI Percent Time-Spent-Following with i fownstream length of two-lane highway within effect of passing lane for percent time-spent-following ength of two-lane highway downstream of effective</pre>	d, Lde speed, FSpl Passing tive le ng, Lde length	Ld g Lan ength engt	- - 0.0 .e	mi %
<pre>length of passing lane for average travel speed ength of two-lane highway downstream of effective length of the passing lane for average travel a dj. factor for the effect of passing lane on average speed, fpl verage travel speed including passing lane, ATSpl ercent free flow speed including passing lane, PFI Percent Time-Spent-Following with in of passing lane for percent time-spent-following ength of two-lane highway downstream of effective the passing lane for percent time-spent-following</pre>	d, Lde speed, FSpl Passing tive le ng, Lde length	Ld g Lan ength engt	- - 0.0 .e	mi %
<pre>length of passing lane for average travel speed ength of two-lane highway downstream of effective length of the passing lane for average travel a adj. factor for the effect of passing lane on average speed, fpl average travel speed including passing lane, ATSpl percent free flow speed including passing lane, PFI </pre>	d, Lde speed, FSpl Passing tive le ng, Lde length	Ld g Lan ength engt	- - 0.0 .e	mi %
<pre>length of passing lane for average travel speed ength of two-lane highway downstream of effective length of the passing lane for average travel a dj. factor for the effect of passing lane on average speed, fpl verage travel speed including passing lane, ATSpl ercent free flow speed including passing lane, PFI </pre>	d, Lde speed, FSpl Passing tive le ng, Lde length	Ld g Lan ength engt	- - 0.0 .e	mi %
<pre>length of passing lane for average travel speed ength of two-lane highway downstream of effective length of the passing lane for average travel a adj. factor for the effect of passing lane on average speed, fpl average travel speed including passing lane, ATSpl percent free flow speed including passing lane, PFI </pre>	d, Lde speed, FSpl Passing tive le ng, Lde length	Ld g Lan ength engt	- - 0.0 .e	mi %
<pre>length of passing lane for average travel speed ength of two-lane highway downstream of effective length of the passing lane for average travel a dj. factor for the effect of passing lane on average speed, fpl average travel speed including passing lane, ATSpl ercent free flow speed including passing lane, PFI Percent Time-Spent-Following with i pownstream length of two-lane highway within effect of passing lane for percent time-spent-following ength of two-lane highway downstream of effective the passing lane for percent time-spent-following dj. factor for the effect of passing lane on percent time-spent-following, fpl ercent time-spent-following</pre>	d, Lde speed, FSpl Passing tive le ng, Lde length ing, Ld	Ld g Lan ength h of	- 0.0 .e	mi % mi %
<pre>Length of two-lane highway downstream of effective length of the passing lane for average travel a Adj. factor for the effect of passing lane on average speed, fpl Average travel speed including passing lane, ATSpl Percent free flow speed including passing lane, PFP </pre>	d, Lde speed, FSpl Passing tive le ng, Lde length ing, Ld	Ld g Lan ength h of	- 0.0 .e	mi % mi %
<pre>length of passing lane for average travel speed ength of two-lane highway downstream of effective length of the passing lane for average travel a dj. factor for the effect of passing lane on average speed, fpl werage travel speed including passing lane, ATSpl ercent free flow speed including passing lane, PFP Percent Time-Spent-Following with it bownstream length of two-lane highway within effect of passing lane for percent time-spent-following ength of two-lane highway downstream of effective the passing lane for percent time-spent-following dj. factor for the effect of passing lane on percent time-spent-following, fpl ercent time-spent-following including passing lane, PTSFpl Level of Service and Other Performance Measurage evel of service including passing lane, LOSpl</pre>	d, Lde speed, FSpl Passing tive le ng, Lde length ing, Ld	Ld g Lan ength h of l	- 0.0 .e - - .ssing	mi % mi %
<pre>length of passing lane for average travel speed ength of two-lane highway downstream of effective length of the passing lane for average travel a dj. factor for the effect of passing lane on average speed, fpl verage travel speed including passing lane, ATSpl ercent free flow speed including passing lane, PFP Percent Time-Spent-Following with in cownstream length of two-lane highway within effect of passing lane for percent time-spent-following ength of two-lane highway downstream of effective the passing lane for percent time-spent-following dj. factor for the effect of passing lane on percent time-spent-following, fpl ercent time-spent-following including passing lane, PTSFpl Level of Service and Other Performance Measure</pre>	d, Lde speed, FSpl Passing tive le ng, Lde length ing, Ld	Ld g Lan ength h of l	- 0.0 .e	mi % mi %

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	643.2
Effective width of outside lane, We	28.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	3.11
Bicycle LOS	С

- 1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific dewngrade segments are treated as level terrain.
- 2. If vi (vd or vo) >= 1,700 pc/h, terminate analysis-the LOS is F.
- 3. For the analysis direction only and for v>200 veh/h.
- 4. For the analysis direction only.
- 5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.
- * These items have been entered or edited to override calculated value

Phone: Fax: E-Mail: _____Directional Two-Lane Highway Segment Analysis______ Analyst DRR Agency/Co. CTG Agency, eetDate Performed2019-08-06Analysis Time PeriodSaturday PM Peak HourClassic Time PeriodSaturday PM Peak Hour Silverado Trail SB Highway Silverado North of Project From/To Jurisdiction Napa Co Analysis Year Existing with Project Description Paraduxx Winery _____Input Data_____ Peak hour factor, PHF 0.88 Highway class Class 1 Shoulder width 8.0 ft % Trucks and buses 5 % 12.0ft% Trucks crawling0.01.5miTruck crawl speed0.0Level% Recreational vehicles2 0.0 Lane width % Segment length 0.0 mi/hr Level % Terrain type % No-passing zones 70 Access point density 9 - mi - % Grade: Length % Up/down /mi Analysis direction volume, Vd 1090 veh/h Opposing direction volume, Vo 560 veh/h _____Average Travel Speed____ Direction Opposing (o) Analysis(d) PCE for trucks, ET 1.1* 1.1 PCE for RVs, ER 1.0* 1.0 Heavy-vehicle adj. factor,(note-5) fHV 0.995 0.995 Grade adj. factor,(note-1) fg 1.00 1.00 1245 pc/h Directional flow rate, (note-2) vi 640 pc/h Free-Flow Speed from Field Measurement: Field measured speed, (note-3) S FM mi/h Observed total demand, (note-3) V _ veh/h Estimated Free-Flow Speed: Base free-flow speed, (note-3) BFFS 55.0 mi/h Adj. for lane and shoulder width, (note-3) fLS 0.0 mi/h Adj. for access point density,(note-3) fA 2.3 mi/h Free-flow speed, FFSd 52.8 mi/h mi/h Adjustment for no-passing zones, fnp 1.5 Average travel speed, ATSd 36.6 mi/h Percent Free Flow Speed, PFFS 69.4 %

Percent Time-Spent-Follow	ving			
Direction Analysis(d)		ia0	posing	(0)
PCE for trucks, ET 1.0		01.	1.0	(0)
PCE for RVs, ER 1.0			1.0	
Heavy-vehicle adjustment factor, fHV 1.000			1.000)
Grade adjustment factor, (note-1) fg 1.00			1.00	
	oc/h		636	pc/h
Base percent time-spent-following,(note-4) BPTSFd		00		F 0 / 11
Adjustment for no-passing zones, fnp	16.5	Ũ		
Percent time-spent-following, PTSFd	91.4	olo		
Level of Service and Other Perform	nance M	easu	res	
Level of service, LOS	E			
Volume to capacity ratio, v/c	0.73			
Peak 15-min vehicle-miles of travel, VMT15	464	v	eh-mi	
Peak-hour vehicle-miles of travel, VMT60	1635		eh-mi	
Peak 15-min total travel time, TT15	12.7	v	eh-h	
Capacity from ATS, CdATS	1700	v	eh/h	
Capacity from PTSF, CdPTSF	1700	v	eh/h	
Directional Capacity	1700	v	eh/h	
Passing Lane Analysis	8			
metel length of enclusing comments It			1 5	
Total length of analysis segment, Lt		Ŧ	1.5	mi
Length of two-lane highway upstream of the passing	g lane,	Lu		mi
Length of passing lane including tapers, Lpl			-	mi
Average travel speed, ATSd (from above)			36.6	mi/h
Percent time-spent-following, PTSFd (from above)			91.4	
Level of service, LOSd (from above)			Ε	
Average Travel Speed with Pass	sing La	ne		
Downstream length of two-lane highway within effec	rtive			
length of passing lane for average travel spee			_	mi
Length of two-lane highway downstream of effective				
length of the passing lane for average travel		ъđ	_	mi
Adj. factor for the effect of passing lane	speeu,	Шα		
on average speed, fpl			-	
Average travel speed including passing lane, ATSpl			-	0.
Percent free flow speed including passing lane, PF	FSPI		0.0	00
Percent Time-Spent-Following with	Passin	g La:	ne	
Downstream length of two-lane highway within effec	ctive l	enati	h	
of passing lane for percent time-spent-followi		-	_	mi
Length of two-lane highway downstream of effective				
the passing lane for percent time-spent-follow	-		_	mi
Adj. factor for the effect of passing lane	· · · · · · · · · · · · · · · · · · ·	u.		
on percent time-spent-following, fpl			_	
			_	
Percent time-spent-following including passing lane, PTSFpl			-	010
Level of Service and Other Performance Measu	ures wi	th Pa	assing	Lane
			-	
Level of service including passing lane, LOSpl	E			
Peak 15-min total travel time, TT15	-	V	eh-h	
Bicycle Level of Servic	ce			

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	1238.6
Effective width of outside lane, We	28.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	3.45
Bicycle LOS	С

- 1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific dewngrade segments are treated as level terrain.
- 2. If vi (vd or vo) >= 1,700 pc/h, terminate analysis-the LOS is F.
- 3. For the analysis direction only and for v>200 veh/h.
- 4. For the analysis direction only.
- 5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.
- * These items have been entered or edited to override calculated value

Phone: Fax: E-Mail: _____Directional Two-Lane Highway Segment Analysis______ Analyst DRR Agency/Co. CTG Date Performed2019-08-06Analysis Time PeriodSaturday PM Peak HourClaused Provide ResideredSaturday PM Peak Hour Silverado Trail SB Highway Silverado South of Project From/To Jurisdiction Napa Co Analysis Year Existing with Project Description Paraduxx Winery _____Input Data_____ Peak hour factor, PHF 0.88 Highway class Class 1 Shoulder width 8.0 ft % Trucks and buses 5 % 8.0 10 12.0 ft % Trucks crawlespeed 0.8 mi Truck crawl speed % Recreational vehi Lane width 0.0 % Segment length 0.0 mi/hr % Recreational vehicles 2 Terrain type 8 % No-passing zones 100 Access point density 12 Grade: Length - mi 8 00 Up/down _ /mi Analysis direction volume, Vd 1101 veh/h Opposing direction volume, Vo 566 veh/h _____Average Travel Speed____ Direction Opposing (o) Analysis(d) PCE for trucks, ET 1.1* 1.1 PCE for RVs, ER 1.0* 1.0 Heavy-vehicle adj. factor,(note-5) fHV 0.995 0.995 Grade adj. factor,(note-1) fg 1.00 1.00 1257 pc/h Directional flow rate, (note-2) vi 646 pc/h Free-Flow Speed from Field Measurement: Field measured speed, (note-3) S FM mi/h Observed total demand, (note-3) V _ veh/h Estimated Free-Flow Speed: Base free-flow speed, (note-3) BFFS 55.0 mi/h Adj. for lane and shoulder width, (note-3) fLS 0.0 mi/h Adj. for access point density,(note-3) fA 3.0 mi/h Free-flow speed, FFSd 52.0 mi/h mi/h Adjustment for no-passing zones, fnp 1.8 Average travel speed, ATSd 35.5 mi/h Percent Free Flow Speed, PFFS 68.2 %

	ng		
Direction Analysis(d)		Opposin	na (o)
PCE for trucks, ET 1.0		1.0	-
PCE for RVs, ER 1.0		1.0	
Leavy-vehicle adjustment factor, fHV 1.000		1.0	
Frade adjustment factor, (note-1) fg 1.000			
	/h	1.0	
	/h	643	B pc/h
ase percent time-spent-following, (note-4) BPTSFd		010	
3 1 3 7 1	17.1		
ercent time-spent-following, PTSFd	92.7	00	
Level of Service and Other Performa	nce Mea	asures	
evel of service, LOS	Е		
olume to capacity ratio, v/c	0.74		
	250	veh-mi	
	881	veh-mi	
	7.0	ven-h	-
	1700	veh/h	
	1700	veh/h	
irectional Capacity	1700	veh/h	
Passing Lane Analysis_			
otal length of analysis segment, Lt		0.8	mi
ength of two-lane highway upstream of the passing	lane. I	Lu –	mi
ength of passing lane including tapers, Lpl		_	mi
verage travel speed, ATSd (from above)		35.5	
ercent time-spent-following, PTSFd (from above)		92.7	
evel of service, LOSd (from above)		E	
Average Travel Speed with Passi	na tona		
	пу Lane	2	
	-	2	
ownstream length of two-lane highway within effect	ive		
ownstream length of two-lane highway within effect length of passing lane for average travel speed	ive		mi
ownstream length of two-lane highway within effect length of passing lane for average travel speed ength of two-lane highway downstream of effective	ive , Lde	-	mi
ownstream length of two-lane highway within effect length of passing lane for average travel speed ength of two-lane highway downstream of effective length of the passing lane for average travel s	ive , Lde	-	
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ownstream length of two-lane highway within effect length of passing lane for average travel speed ength of two-lane highway downstream of effective length of the passing lane for average travel s dj. factor for the effect of passing lane on average speed, fpl	ive , Lde	-	mi
ownstream length of two-lane highway within effect length of passing lane for average travel speed ength of two-lane highway downstream of effective length of the passing lane for average travel s dj. factor for the effect of passing lane on average speed, fpl verage travel speed including passing lane, ATSpl	ive , Lde peed, I	- -	mi mi
ownstream length of two-lane highway within effect length of passing lane for average travel speed ength of two-lane highway downstream of effective length of the passing lane for average travel s dj. factor for the effect of passing lane on average speed, fpl verage travel speed including passing lane, ATSpl	ive , Lde peed, I	-	mi
ownstream length of two-lane highway within effect length of passing lane for average travel speed ength of two-lane highway downstream of effective length of the passing lane for average travel s dj. factor for the effect of passing lane on average speed, fpl verage travel speed including passing lane, ATSpl	ive , Lde peed, I Spl	- Ld - - 0.0	mi mi %
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ownstream length of two-lane highway within effect length of passing lane for average travel speed ength of two-lane highway downstream of effective length of the passing lane for average travel s dj. factor for the effect of passing lane on average speed, fpl verage travel speed including passing lane, ATSpl ercent free flow speed including passing lane, PFF Percent Time-Spent-Following with P ownstream length of two-lane highway within effect	ive , Lde peed, I Spl assing ive ler	- - - 0.0 Lane	mi mi %
ownstream length of two-lane highway within effect length of passing lane for average travel speed ength of two-lane highway downstream of effective length of the passing lane for average travel s dj. factor for the effect of passing lane on average speed, fpl verage travel speed including passing lane, ATSpl ercent free flow speed including passing lane, PFF Percent Time-Spent-Following with P ownstream length of two-lane highway within effect of passing lane for percent time-spent-followin	ive , Lde peed, I Spl assing ive ler g, Lde	- - - 0.0 Lane ngth -	mi mi %
ownstream length of two-lane highway within effect length of passing lane for average travel speed ength of two-lane highway downstream of effective length of the passing lane for average travel s dj. factor for the effect of passing lane on average speed, fpl verage travel speed including passing lane, ATSpl ercent free flow speed including passing lane, PFF Percent Time-Spent-Following with P ownstream length of two-lane highway within effect of passing lane for percent time-spent-followin ength of two-lane highway downstream of effective	ive , Lde peed, I Spl assing ive ler g, Lde length	- - - 0.0 Lane ngth - of	mi mi %
ownstream length of two-lane highway within effect length of passing lane for average travel speed ength of two-lane highway downstream of effective length of the passing lane for average travel s dj. factor for the effect of passing lane on average speed, fpl verage travel speed including passing lane, ATSpl ercent free flow speed including passing lane, PFF Percent Time-Spent-Following with P ownstream length of two-lane highway within effect of passing lane for percent time-spent-followin ength of two-lane highway downstream of effective the passing lane for percent time-spent-followi	ive , Lde peed, I Spl assing ive ler g, Lde length	- - - 0.0 Lane ngth - of	mi mi %
ownstream length of two-lane highway within effect length of passing lane for average travel speed ength of two-lane highway downstream of effective length of the passing lane for average travel s dj. factor for the effect of passing lane on average speed, fpl verage travel speed including passing lane, ATSpl ercent free flow speed including passing lane, PFF 	ive , Lde peed, I Spl assing ive ler g, Lde length	- - - 0.0 Lane ngth - of	mi mi %
ownstream length of two-lane highway within effect length of passing lane for average travel speed ength of two-lane highway downstream of effective length of the passing lane for average travel s dj. factor for the effect of passing lane on average speed, fpl verage travel speed including passing lane, ATSpl ercent free flow speed including passing lane, PFF 	ive , Lde peed, I Spl assing ive ler g, Lde length	- - - 0.0 Lane ngth - of	mi mi %
ownstream length of two-lane highway within effect length of passing lane for average travel speed ength of two-lane highway downstream of effective length of the passing lane for average travel s dj. factor for the effect of passing lane on average speed, fpl verage travel speed including passing lane, ATSpl ercent free flow speed including passing lane, PFF 	ive , Lde peed, I Spl assing ive ler g, Lde length	- - - 0.0 Lane ngth - of	mi mi % mi mi
ownstream length of two-lane highway within effect length of passing lane for average travel speed ength of two-lane highway downstream of effective length of the passing lane for average travel s dj. factor for the effect of passing lane on average speed, fpl verage travel speed including passing lane, ATSpl ercent free flow speed including passing lane, PFF 	ive , Lde peed, I Spl assing ive ler g, Lde length	- - - 0.0 Lane ngth - of	mi mi %
ownstream length of two-lane highway within effect length of passing lane for average travel speed ength of two-lane highway downstream of effective length of the passing lane for average travel s dj. factor for the effect of passing lane on average speed, fpl verage travel speed including passing lane, ATSpl ercent free flow speed including passing lane, PFF 	ive , Lde peed, I Spl assing ive ler g, Lde length ng, Ld	- - - 0.0 Lane ngth - of - - -	mi mi % mi mi
<pre>ownstream length of two-lane highway within effect length of passing lane for average travel speed ength of two-lane highway downstream of effective length of the passing lane for average travel s dj. factor for the effect of passing lane on average speed, fpl verage travel speed including passing lane, ATSpl ercent free flow speed including passing lane, PFF Percent Time-Spent-Following with P ownstream length of two-lane highway within effect of passing lane for percent time-spent-followin ength of two-lane highway downstream of effective the passing lane for percent time-spent-followin dj. factor for the effect of passing lane on percent time-spent-following, fpl ercent time-spent-following including passing lane, PTSFpl Level of Service and Other Performance Measur</pre>	ive , Lde peed, I Spl assing ive ler g, Lde length ng, Ld	- - - 0.0 Lane ngth - of - - -	mi mi % mi mi
<pre>ownstream length of two-lane highway within effect length of passing lane for average travel speed ength of two-lane highway downstream of effective length of the passing lane for average travel s dj. factor for the effect of passing lane on average speed, fpl verage travel speed including passing lane, ATSpl ercent free flow speed including passing lane, PFF Percent Time-Spent-Following with P ownstream length of two-lane highway within effect of passing lane for percent time-spent-followin ength of two-lane highway downstream of effective the passing lane for percent time-spent-followin dj. factor for the effect of passing lane on percent time-spent-following, fpl ercent time-spent-following including passing lane, PTSFpl Level of Service and Other Performance Measur evel of service including passing lane, LOSpl</pre>	ive , Lde peed, I Spl assing ive ler g, Lde length ng, Ld	- - - 0.0 Lane ngth - of - - - - - - -	mi mi % mi mi
<pre>ownstream length of two-lane highway within effect length of passing lane for average travel speed ength of two-lane highway downstream of effective length of the passing lane for average travel s dj. factor for the effect of passing lane on average speed, fpl verage travel speed including passing lane, ATSpl ercent free flow speed including passing lane, PFF Percent Time-Spent-Following with P ownstream length of two-lane highway within effect of passing lane for percent time-spent-followin ength of two-lane highway downstream of effective the passing lane for percent time-spent-followin dj. factor for the effect of passing lane on percent time-spent-following, fpl ercent time-spent-following including passing lane, PTSFpl Level of Service and Other Performance Measur</pre>	ive , Lde peed, I Spl assing ive ler g, Lde length ng, Ld	- - - 0.0 Lane ngth - of - - -	mi mi % mi mi

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	1251.1
Effective width of outside lane, We	28.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	3.45
Bicycle LOS	С

- 1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific dewngrade segments are treated as level terrain.
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- 5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.
- * These items have been entered or edited to override calculated value

Phone: Fax: E-Mail: _____Directional Two-Lane Highway Segment Analysis______ Analyst DRR Agency/Co. CTG Date Performed 2019-08-06 Analysis Time Period Friday PM Peak Hour Silverado Trail NB Highway Silverado North of Project From/To Jurisdiction Napa Co Analysis Year 2020 with Project Description Paraduxx Winery _____Input Data_____ Peak hour factor, PHF 0.97 Highway class Class 1 Shoulder width 8.0 ft % Trucks and buses 5 % 12.0ft% Trucks crawling0.01.5miTruck crawl speed0.0Level% Recreational vehicles2 Lane width 0.0 % 0.0 Segment length mi/hr Level Terrain type 8 - mi % No-passing zones 85 - % Access point density 9 Grade: Length % Up/down /mi Analysis direction volume, Vd 567 veh/h Opposing direction volume, Vo 1328 veh/h _____Average Travel Speed____ Direction Analysis(d) Opposing (o) PCE for trucks, ET 1.1* 1.0 PCE for RVs, ER 1.0* 1.0 Heavy-vehicle adj. factor,(note-5) fHV 0.995 1.000 1.00 Grade adj. factor, (note-1) fg 1.00 587 pc/h Directional flow rate, (note-2) vi 1369 pc/h Free-Flow Speed from Field Measurement: Field measured speed, (note-3) S FM mi/h _ Observed total demand, (note-3) V veh/h Estimated Free-Flow Speed: Base free-flow speed, (note-3) BFFS 55.0 mi/h Adj. for lane and shoulder width, (note-3) fLS 0.0 mi/h Adj. for access point density,(note-3) fA 2.3 mi/h Free-flow speed, FFSd 52.8 mi/h mi/h Adjustment for no-passing zones, fnp 0.8 Average travel speed, ATSd 36.8 mi/h Percent Free Flow Speed, PFFS 69.8 %

Base percent time-spent-following,(note-4) BPTSFd Adjustment for no-passing zones, fnp Percent time-spent-following, PTSFd Level of Service and Other Performa Level of service, LOS Volume to capacity ratio, v/c Peak 15-min vehicle-miles of travel, VMT15 Peak-hour vehicle-miles of travel, VMT60	c/h 65.8 14.7 70.2	Opposing 1.0 1.00 1.00 1.00 1369 % % sures	0 pc/h
Grade adjustment factor, (note-1) fg 1.00 Directional flow rate, (note-2) vi 585 pc Base percent time-spent-following, (note-4) BPTSFd Adjustment for no-passing zones, fnp Percent time-spent-following, PTSFd Level of Service and Other Performa Level of service, LOS Volume to capacity ratio, v/c Peak 15-min vehicle-miles of travel, VMT15 Peak-hour vehicle-miles of travel, VMT60	65.8 14.7 70.2 ance Mea	1.00 1369 %	pc/h
Directional flow rate,(note-2) vi 585 pc Base percent time-spent-following,(note-4) BPTSFd Adjustment for no-passing zones, fnp Percent time-spent-following, PTSFd Level of Service and Other Performa Level of service, LOS Volume to capacity ratio, v/c Peak 15-min vehicle-miles of travel, VMT15 Peak-hour vehicle-miles of travel, VMT60	65.8 14.7 70.2 ance Mea	1369 % %	pc/h
Base percent time-spent-following,(note-4) BPTSFd Adjustment for no-passing zones, fnp Percent time-spent-following, PTSFd Level of Service and Other Performa Level of service, LOS Volume to capacity ratio, v/c Peak 15-min vehicle-miles of travel, VMT15 Peak-hour vehicle-miles of travel, VMT60	65.8 14.7 70.2 ance Mea	୶	-
Adjustment for no-passing zones, fnp Percent time-spent-following, PTSFd Level of Service and Other Performa Level of service, LOS Yolume to capacity ratio, v/c Peak 15-min vehicle-miles of travel, VMT15 Peak-hour vehicle-miles of travel, VMT60	14.7 70.2 ance Mea E	8	
Percent time-spent-following, PTSFd Level of Service and Other Performa Level of service, LOS Yolume to capacity ratio, v/c Peak 15-min vehicle-miles of travel, VMT15 Peak-hour vehicle-miles of travel, VMT60	70.2 ance Mea E		
Level of service, LOS Volume to capacity ratio, v/c Peak 15-min vehicle-miles of travel, VMT15 Peak-hour vehicle-miles of travel, VMT60	Е	sures	
Jolume to capacity ratio, v/c Peak 15-min vehicle-miles of travel, VMT15 Peak-hour vehicle-miles of travel, VMT60			
Volume to capacity ratio, v/c Peak 15-min vehicle-miles of travel, VMT15 Peak-hour vehicle-miles of travel, VMT60			
Peak 15-min vehicle-miles of travel, VMT15 Peak-hour vehicle-miles of travel, VMT60			
	219	veh-mi	
	851	veh-mi	
Peak 15-min total travel time, TT15	5.9	veh-h	
Capacity from ATS, CdATS	1700	veh/h	
Capacity from PTSF, CdPTSF	1700	veh/h	
Directional Capacity	1700	veh/h	
Passing Lane Analysis_			
Cotal length of analysis segment, Lt		1.5	mi
length of two-lane highway upstream of the passing	lane, L	u –	mi
ength of passing lane including tapers, Lpl		_	mi
verage travel speed, ATSd (from above)		36.8	mi/h
Percent time-spent-following, PTSFd (from above)		70.2	
Level of service, LOSd (from above)		Ε	
Average Travel Speed with Passi	lng Lane		
Downstream length of two-lane highway within effect	cive		
length of passing lane for average travel speed		-	mi
Length of two-lane highway downstream of effective length of the passing lane for average travel s	speed, L	d –	mi
Adj. factor for the effect of passing lane			
on average speed, fpl		-	
verage travel speed including passing lane, ATSpl		-	
Percent free flow speed including passing lane, PFF	Spl	0.0	90
Percent Time-Spent-Following with F	Passing	Lane	
ownstream length of two-lane highway within effect	tive leng	gth	
of passing lane for percent time-spent-following		-	mi
Length of two-lane highway downstream of effective		of	
the passing lane for percent time-spent-followi		-	mi
dj. factor for the effect of passing lane			
on percent time-spent-following, fpl		-	
Percent time-spent-following			
including passing lane, PTSFpl		_	00
Level of Service and Other Performance Measur	res with	Passing	Lane
Level of service including passing lane, LOSpl	Е		
Peak 15-min total travel time, TT15	_ _	veh-h	

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	584.5
Effective width of outside lane, We	28.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	3.07
Bicycle LOS	С

- 1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific dewngrade segments are treated as level terrain.
- 2. If vi (vd or vo) >= 1,700 pc/h, terminate analysis-the LOS is F.
- 3. For the analysis direction only and for v>200 veh/h.
- 4. For the analysis direction only.
- 5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.
- * These items have been entered or edited to override calculated value

Phone: Fax: E-Mail: _____Directional Two-Lane Highway Segment Analysis______ Analyst DRR Agency/Co. CTG Date Performed 2019-08-06 Analysis Time Period Friday PM Peak Hour Silverado Trail NB Highway Silverado South of Project From/To Jurisdiction Napa Co Analysis Year 2020 with Project Description Paraduxx Winery _____Input Data_____ Peak hour factor, PHF 0.97 Highway class Class 1 Shoulder width 8.0 ft % Trucks and buses 5 % 12.0ft% Trucks crawling0.8miTruck crawl speedLevel% Recreational vehi Lane width 0.0 % Segment length 0.0 mi/hr % Recreational vehicles 2 Terrain type 8 - mi % No-passing zones 50 - % Access point density 12 Grade: Length % Up/down /mi Analysis direction volume, Vd 567 veh/h Opposing direction volume, Vo 1342 veh/h _____Average Travel Speed____ Direction Analysis(d) Opposing (o) PCE for trucks, ET 1.1* 1.0 PCE for RVs, ER 1.0* 1.0 Heavy-vehicle adj. factor,(note-5) fHV 0.995 1.000 1.00 Grade adj. factor, (note-1) fg 1.00 587 pc/h Directional flow rate, (note-2) vi 1384 pc/h Free-Flow Speed from Field Measurement: Field measured speed, (note-3) S FM mi/h _ Observed total demand, (note-3) V veh/h Estimated Free-Flow Speed: Base free-flow speed, (note-3) BFFS 55.0 mi/h Adj. for lane and shoulder width, (note-3) fLS 0.0 mi/h Adj. for access point density,(note-3) fA 3.0 mi/h Free-flow speed, FFSd 52.0 mi/h mi/h Adjustment for no-passing zones, fnp 0.6 Average travel speed, ATSd 36.1 mi/h Percent Free Flow Speed, PFFS 69.5 %

	ing			
Direction Analysis(d)		ag0	osing	(0)
PCE for trucks, ET 1.0		- 1 1	1.0	(-)
PCE for RVs, ER 1.0			1.0	
Heavy-vehicle adjustment factor, fHV 1.000			1.000	
Grade adjustment factor, (note-1) fg 1.00			1.00	
	c/h		1384	pc/h
Base percent time-spent-following,(note-4) BPTSFd		00	1001	26/11
Adjustment for no-passing zones, fnp	12.8	0		
Percent time-spent-following, PTSFd	70.0	010		
Level of Service and Other Performa	ance Me	asure	es	
Level of service, LOS	Е			
Volume to capacity ratio, v/c	0.34			
eak 15-min vehicle-miles of travel, VMT15	117	vel	n-mi	
Peak-hour vehicle-miles of travel, VMT60	454		n-mi	
Peak 15-min total travel time, TT15	3.2		n-h	
Lapacity from ATS, CdATS	1700		n/h	
Capacity from PTSF, CdPTSF	1700		n/h	
Directional Capacity	1700	vei	n/h	
Passing Lane Analysis_				
otal length of analysis segment, Lt		(0.8	mi
ength of two-lane highway upstream of the passing	lane.		_	mi
ength of passing lane including tapers, Lpl	ranc,		_	mi
verage travel speed, ATSd (from above)			36.1	mi/h
Percent time-spent-following, PTSFd (from above)			70.0	111 / 11
evel of service, LOSd (from above)				
			Ξ	
Average Travel Speed with Passi	ing Lan	e		
Downstream length of two-lane highway within effect	cive			
		-	_	mi
length of passing lane for average travel speed		-	-	mi
length of passing lane for average travel speed ength of two-lane highway downstream of effective	l, Lde	I.d	-	
length of passing lane for average travel speed ength of two-lane highway downstream of effective length of the passing lane for average travel s	l, Lde	- Ld -	-	mi mi
length of passing lane for average travel speed ength of two-lane highway downstream of effective length of the passing lane for average travel s adj. factor for the effect of passing lane	l, Lde	Ld -	-	
<pre>length of passing lane for average travel speed ength of two-lane highway downstream of effective length of the passing lane for average travel s adj. factor for the effect of passing lane on average speed, fpl</pre>	l, Lde	Ld -	-	
<pre>length of passing lane for average travel speed ength of two-lane highway downstream of effective length of the passing lane for average travel s adj. factor for the effect of passing lane on average speed, fpl average travel speed including passing lane, ATSpl</pre>	l, Lde speed,	-	-	mi
<pre>length of passing lane for average travel speed ength of two-lane highway downstream of effective length of the passing lane for average travel s adj. factor for the effect of passing lane on average speed, fpl average travel speed including passing lane, ATSpl</pre>	l, Lde speed,	-	- - - - 0.0	
<pre>length of passing lane for average travel speed ength of two-lane highway downstream of effective length of the passing lane for average travel s adj. factor for the effect of passing lane on average speed, fpl average travel speed including passing lane, ATSpl</pre>	l, Lde speed, 7Spl	-	- - 0.0	mi %
<pre>length of passing lane for average travel speed length of two-lane highway downstream of effective length of the passing lane for average travel s adj. factor for the effect of passing lane on average speed, fpl average travel speed including passing lane, ATSpl Percent free flow speed including passing lane, PFF </pre>	d, Lde speed, Spl Passing	- (Lane	- - 0.0 =	mi %
<pre>length of passing lane for average travel speed ength of two-lane highway downstream of effective length of the passing lane for average travel s adj. factor for the effect of passing lane on average speed, fpl average travel speed including passing lane, ATSpl Percent free flow speed including passing lane, PFF Percent Time-Spent-Following with F pownstream length of two-lane highway within effect</pre>	d, Lde speed, Spl Passing cive le	Lane ngth	- - 0.0 =	mi %
<pre>length of passing lane for average travel speed ength of two-lane highway downstream of effective length of the passing lane for average travel s adj. factor for the effect of passing lane on average speed, fpl average travel speed including passing lane, ATSpl percent free flow speed including passing lane, PFF Percent Time-Spent-Following with F bownstream length of two-lane highway within effect of passing lane for percent time-spent-following</pre>	d, Lde speed, Spl Passing cive le ng, Lde	Lane ngth	- - 0.0 =	mi %
<pre>length of passing lane for average travel speed ength of two-lane highway downstream of effective length of the passing lane for average travel s dj. factor for the effect of passing lane on average speed, fpl average travel speed including passing lane, ATSpl ercent free flow speed including passing lane, PFF Percent Time-Spent-Following with F cownstream length of two-lane highway within effect of passing lane for percent time-spent-following ength of two-lane highway downstream of effective</pre>	d, Lde speed, Spl Passing tive le ng, Lde length	Lane ngth of	- - 0.0 =	mi % mi
<pre>length of passing lane for average travel speed ength of two-lane highway downstream of effective length of the passing lane for average travel s dj. factor for the effect of passing lane on average speed, fpl verage travel speed including passing lane, ATSpl ercent free flow speed including passing lane, PFF Percent Time-Spent-Following with F ownstream length of two-lane highway within effect of passing lane for percent time-spent-following ength of two-lane highway downstream of effective the passing lane for percent time-spent-following</pre>	d, Lde speed, Spl Passing tive le ng, Lde length	Lane ngth of	- - 0.0 =	mi %
<pre>length of passing lane for average travel speed ength of two-lane highway downstream of effective length of the passing lane for average travel s adj. factor for the effect of passing lane on average speed, fpl average travel speed including passing lane, ATSpl ercent free flow speed including passing lane, PFF </pre>	d, Lde speed, Spl Passing tive le ng, Lde length	Lane ngth of	- - 0.0 =	mi %
<pre>length of passing lane for average travel speed ength of two-lane highway downstream of effective length of the passing lane for average travel s adj. factor for the effect of passing lane on average speed, fpl verage travel speed including passing lane, ATSpl ercent free flow speed including passing lane, PFF </pre>	d, Lde speed, Spl Passing tive le ng, Lde length	Lane ngth of	- - 0.0 =	mi %
<pre>length of passing lane for average travel speed ength of two-lane highway downstream of effective length of the passing lane for average travel s adj. factor for the effect of passing lane on average speed, fpl average travel speed including passing lane, ATSpl Percent free flow speed including passing lane, PFF Percent Time-Spent-Following with F cownstream length of two-lane highway within effect of passing lane for percent time-spent-following ength of two-lane highway downstream of effective the passing lane for percent time-spent-following dj. factor for the effect of passing lane on percent time-spent-following, fpl</pre>	d, Lde speed, Spl Passing tive le ng, Lde length	Lane ngth of	- - 0.0 =	mi % mi
<pre>length of passing lane for average travel speed ength of two-lane highway downstream of effective length of the passing lane for average travel s dj. factor for the effect of passing lane on average speed, fpl verage travel speed including passing lane, ATSpl ercent free flow speed including passing lane, PFF Percent Time-Spent-Following with F cownstream length of two-lane highway within effect of passing lane for percent time-spent-following ength of two-lane highway downstream of effective the passing lane for percent time-spent-following dj. factor for the effect of passing lane on percent time-spent-following, fpl ercent time-spent-following including passing lane, PTSFpl</pre>	d, Lde speed, Spl Passing tive le ng, Lde length ing, Ld	Lane ngth of	- - 0.0 =	mi % mi %
<pre>Length of two-lane highway downstream of effective length of the passing lane for average travel a Adj. factor for the effect of passing lane on average speed, fpl Average travel speed including passing lane, ATSpl Percent free flow speed including passing lane, PFF </pre>	d, Lde speed, Spl Passing tive le ng, Lde length ing, Ld	Lane ngth of	- - 0.0 =	mi % mi %
<pre>length of passing lane for average travel speed ength of two-lane highway downstream of effective length of the passing lane for average travel s adj. factor for the effect of passing lane on average speed, fpl average travel speed including passing lane, ATSpl percent free flow speed including passing lane, PFF Percent Time-Spent-Following with F bownstream length of two-lane highway within effect of passing lane for percent time-spent-following ength of two-lane highway downstream of effective the passing lane for percent time-spent-following adj. factor for the effect of passing lane on percent time-spent-following, fpl Percent time-spent-following including passing lane, PTSFpl</pre>	d, Lde speed, Spl Passing tive le ng, Lde length ing, Ld	Lane ngth of	- - 0.0 =	mi % mi %
<pre>length of passing lane for average travel speed ength of two-lane highway downstream of effective length of the passing lane for average travel s adj. factor for the effect of passing lane on average speed, fpl average travel speed including passing lane, ATSpl percent free flow speed including passing lane, PFF </pre>	d, Lde speed, Spl Passing tive le ng, Lde length ing, Ld	Land ngth of h Pas	- - 0.0 =	mi % mi %

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	584.5
Effective width of outside lane, We	28.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	3.07
Bicycle LOS	С

- 1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific dewngrade segments are treated as level terrain.
- 2. If vi (vd or vo) >= 1,700 pc/h, terminate analysis-the LOS is F.
- 3. For the analysis direction only and for v>200 veh/h.
- 4. For the analysis direction only.
- 5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.
- * These items have been entered or edited to override calculated value

Phone: Fax: E-Mail: _____Directional Two-Lane Highway Segment Analysis______ Analyst DRR Agency/Co. CTG Date Performed 2019-08-06 Analysis Time Period Friday PM Peak Hour Silverado Trail SB Highway Silverado North of Project From/To Jurisdiction Napa Co Analysis Year 2020 with Project Description Paraduxx Winery _____Input Data_____ Peak hour factor, PHF 0.97 Highway class Class 1 Shoulder width 8.0 ft % Trucks and buses 5 % 12.0ft% Trucks crawling1.5miTruck crawl speedLevel% Recreational vehi Lane width 0.0 % Segment length 0.0 mi/hr Level % % Recreational vehicles 2 Terrain type - mi % No-passing zones 70 - % Access point density 9 Grade: Length % Up/down /mi Analysis direction volume, Vd 1328 veh/h Opposing direction volume, Vo 567 veh/h _____Average Travel Speed____ Direction Opposing (o) Analysis(d) PCE for trucks, ET 1.1* 1.1 PCE for RVs, ER 1.0* 1.0 Heavy-vehicle adj. factor,(note-5) fHV 0.995 0.995 Grade adj. factor, (note-1) fg 1.00 1.00 1376 pc/h Directional flow rate, (note-2) vi 587 pc/h Free-Flow Speed from Field Measurement: Field measured speed, (note-3) S FM mi/h Observed total demand, (note-3) V _ veh/h Estimated Free-Flow Speed: Base free-flow speed, (note-3) BFFS 55.0 mi/h Adj. for lane and shoulder width, (note-3) fLS 0.0 mi/h Adj. for access point density,(note-3) fA 2.3 mi/h Free-flow speed, FFSd 52.8 mi/h mi/h Adjustment for no-passing zones, fnp 1.7 Average travel speed, ATSd 35.8 mi/h Percent Free Flow Speed, PFFS 67.9 ŝ

Direction Analysis(d)		1a0	oosina	(0)
PCE for trucks, ET 1.0		-1-1	1.0	(-)
PCE for RVs, ER 1.0			1.0	
Heavy-vehicle adjustment factor, fHV 1.000			1.000	
Grade adjustment factor, (note-1) fg 1.00			1.00	
	c/h		585	pc/h
Base percent time-spent-following,(note-4) BPTSFd		00	000	F 0 / 11
	14.2	0		
	92.8	olo		
Level of Service and Other Performa	ance Me	asu	res	
	_			
Level of service, LOS	E			
Volume to capacity ratio, v/c	0.81			
Peak 15-min vehicle-miles of travel, VMT15	513		eh-mi	
	1992		eh-mi	
	14.3		eh-h	
Capacity from ATS, CdATS	1700		eh/h	
Capacity from PTSF, CdPTSF	1700	ve	eh/h	
Directional Capacity	1700	ve	eh/h	
Passing Lane Analysis_				
otal length of analysis segment, Lt			1.5	mi
ength of two-lane highway upstream of the passing	lane	T.11		mi
ength of passing lane including tapers, Lpl	ranc,	Ца	_	mi
verage travel speed, ATSd (from above)			35.8	mi/h
Percent time-spent-following, PTSFd (from above)			92.8	111 / 11
Level of service, LOSd (from above)			92.0 E	
Average Travel Speed with Passi	.ng Lan	.e		
Downstream length of two-lane highway within effect	ive			
length of passing lane for average travel speed	l, Lde		-	mi
Jength of two-lane highway downstream of effective				
length of the passing lane for average travel s	speed,	Ld	-	mi
length of the passing lane for average travel s dj. factor for the effect of passing lane	speed,	Ld	-	mi
length of the passing lane for average travel s dj. factor for the effect of passing lane on average speed, fpl	speed,	Ld	-	mi
length of the passing lane for average travel s adj. factor for the effect of passing lane on average speed, fpl average travel speed including passing lane, ATSpl		Ld	-	mi
length of the passing lane for average travel s Adj. factor for the effect of passing lane on average speed, fpl Average travel speed including passing lane, ATSpl		Ld	- - 0.0	mi %
length of the passing lane for average travel s Adj. factor for the effect of passing lane on average speed, fpl Average travel speed including passing lane, ATSpl	Spl		- - 0.0	8
<pre>length of the passing lane for average travel s Adj. factor for the effect of passing lane on average speed, fpl Average travel speed including passing lane, ATSpl Percent free flow speed including passing lane, PFFPercent Time-Spent-Following with F</pre>	'Spl Passing	Lar	- - 0.0 ne	8
<pre>length of the passing lane for average travel s adj. factor for the effect of passing lane on average speed, fpl average travel speed including passing lane, ATSpl Percent free flow speed including passing lane, PFF Percent Time-Spent-Following with F pownstream length of two-lane highway within effect</pre>	'Spl Passing tive le	Lar	- - 0.0 ne	8
<pre>length of the passing lane for average travel s dj. factor for the effect of passing lane on average speed, fpl average travel speed including passing lane, ATSpl Percent free flow speed including passing lane, PFFPercent Time-Spent-Following with F bownstream length of two-lane highway within effect of passing lane for percent time-spent-following</pre>	Spl Passing tive le	Lar	- - 0.0 ne	8
<pre>length of the passing lane for average travel s adj. factor for the effect of passing lane on average speed, fpl average travel speed including passing lane, ATSpl percent free flow speed including passing lane, PFF Percent Time-Spent-Following with F pownstream length of two-lane highway within effect of passing lane for percent time-spent-following ength of two-lane highway downstream of effective</pre>	Spl Passing tive leng, Lde length	Lar ngtl	- - 0.0 ne	%
<pre>length of the passing lane for average travel s dj. factor for the effect of passing lane on average speed, fpl verage travel speed including passing lane, ATSpl ercent free flow speed including passing lane, PFF Percent Time-Spent-Following with F ownstream length of two-lane highway within effect of passing lane for percent time-spent-following ength of two-lane highway downstream of effective the passing lane for percent time-spent-following the passing lane for percent time-spent-following</pre>	Spl Passing tive leng, Lde length	Lar ngtl	- - 0.0 ne	8
<pre>length of the passing lane for average travel s dj. factor for the effect of passing lane on average speed, fpl verage travel speed including passing lane, ATSpl ercent free flow speed including passing lane, PFF Percent Time-Spent-Following with F ownstream length of two-lane highway within effect of passing lane for percent time-spent-following ength of two-lane highway downstream of effective the passing lane for percent time-spent-following dj. factor for the effect of passing lane</pre>	Spl Passing tive leng, Lde length	Lar ngtl	- - 0.0 ne	%
<pre>length of the passing lane for average travel s adj. factor for the effect of passing lane on average speed, fpl average travel speed including passing lane, ATSpl percent free flow speed including passing lane, PFF Percent Time-Spent-Following with F ownstream length of two-lane highway within effect of passing lane for percent time-spent-following length of two-lane highway downstream of effective the passing lane for percent time-spent-following dj. factor for the effect of passing lane on percent time-spent-following, fpl</pre>	Spl Passing tive leng, Lde length	Lar ngtl	- - 0.0 ne	%
<pre>length of the passing lane for average travel s Adj. factor for the effect of passing lane on average speed, fpl Average travel speed including passing lane, ATSpl Percent free flow speed including passing lane, PFF Percent Time-Spent-Following with F Oownstream length of two-lane highway within effect of passing lane for percent time-spent-following Length of two-lane highway downstream of effective the passing lane for percent time-spent-following dj. factor for the effect of passing lane on percent time-spent-following, fpl</pre>	Spl Passing tive leng, Lde length	Lar ngtl	- - 0.0 ne	%
<pre>length of the passing lane for average travel s adj. factor for the effect of passing lane on average speed, fpl average travel speed including passing lane, ATSpl percent free flow speed including passing lane, PFF Percent Time-Spent-Following with F pownstream length of two-lane highway within effect of passing lane for percent time-spent-following length of two-lane highway downstream of effective the passing lane for percent time-spent-following adj. factor for the effect of passing lane on percent time-spent-following, fpl percent time-spent-following including passing lane, PTSFpl</pre>	Spl Passing tive leng, Lde length ng, Ld	Lar ngtl of	- - 0.0 ne - - -	۶ mi %
Adj. factor for the effect of passing lane on average speed, fpl Average travel speed including passing lane, ATSpl Percent free flow speed including passing lane, PFF Percent Time-Spent-Following with F Downstream length of two-lane highway within effect of passing lane for percent time-spent-following Length of two-lane highway downstream of effective the passing lane for percent time-spent-following Adj. factor for the effect of passing lane on percent time-spent-following, fpl Percent time-spent-following including passing lane, PTSFpl Level of Service and Other Performance Measur	Spl Passing tive leng, Lde length ng, Ld	Lar ngtl of	- - 0.0 ne - - -	۶ mi %
<pre>length of the passing lane for average travel s adj. factor for the effect of passing lane on average speed, fpl average travel speed including passing lane, ATSpl Percent free flow speed including passing lane, PFF Percent Time-Spent-Following with F pownstream length of two-lane highway within effect of passing lane for percent time-spent-following length of two-lane highway downstream of effective the passing lane for percent time-spent-following adj. factor for the effect of passing lane on percent time-spent-following, fpl Percent time-spent-following including passing lane, PTSFpl Level of Service and Other Performance Measur sevel of service including passing lane, LOSpl</pre>	Spl Passing tive leng, Lde length ng, Ld	Lar ngtl of	- - 0.0 ne - - -	۶ mi mi
<pre>length of the passing lane for average travel s adj. factor for the effect of passing lane on average speed, fpl average travel speed including passing lane, ATSpl percent free flow speed including passing lane, PFF Percent Time-Spent-Following with F pownstream length of two-lane highway within effect of passing lane for percent time-spent-following length of two-lane highway downstream of effective the passing lane for percent time-spent-following adj. factor for the effect of passing lane on percent time-spent-following, fpl percent time-spent-following including passing lane, PTSFpl</pre>	Passing cive leng, Lde length ng, Ld	Lar ngtl of h Pa	- - 0.0 ne - - -	۶ mi %

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	1369.1
Effective width of outside lane, We	28.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	3.50
Bicycle LOS	С

- 1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific dewngrade segments are treated as level terrain.
- 2. If vi (vd or vo) >= 1,700 pc/h, terminate analysis-the LOS is F.
- 3. For the analysis direction only and for v>200 veh/h.
- 4. For the analysis direction only.
- 5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.
- * These items have been entered or edited to override calculated value

Phone: Fax: E-Mail: _____Directional Two-Lane Highway Segment Analysis______ Analyst DRR Agency/Co. CTG Date Performed 2019-08-06 Analysis Time Period Friday PM Peak Hour Silverado Trail SB Highway Silverado North of Project From/To Jurisdiction Napa Co Analysis Year 2020 with Project Description Paraduxx Winery _____Input Data_____ Peak hour factor, PHF 0.97 Highway class Class 1 Shoulder width 8.0 ft % Trucks and buses 5 % 8.0 10 12.0 ft % Trucks crawlespeed 0.8 mi Truck crawl speed % Recreational vehi Lane width 0.0 % Segment length 0.0 mi/hr % Recreational vehicles 2 Terrain type 8 % No-passing zones 100 Access point density 12 Grade: Length – mi 8 00 Up/down _ /mi Analysis direction volume, Vd 1342 veh/h Opposing direction volume, Vo 567 veh/h _____Average Travel Speed____ Direction Opposing (o) Analysis(d) PCE for trucks, ET 1.1* 1.1 PCE for RVs, ER 1.0* 1.0 Heavy-vehicle adj. factor,(note-5) fHV 0.995 0.995 Grade adj. factor,(note-1) fg 1.00 1.00 1390 pc/h Directional flow rate, (note-2) vi 587 pc/h Free-Flow Speed from Field Measurement: Field measured speed, (note-3) S FM mi/h Observed total demand, (note-3) V _ veh/h Estimated Free-Flow Speed: Base free-flow speed, (note-3) BFFS 55.0 mi/h Adj. for lane and shoulder width, (note-3) fLS 0.0 mi/h Adj. for access point density,(note-3) fA 3.0 mi/h Free-flow speed, FFSd 52.0 mi/h 2.0 mi/h Adjustment for no-passing zones, fnp Average travel speed, ATSd 34.7 mi/h Percent Free Flow Speed, PFFS 66.7 ŝ

Direction Analysis(d)		1 0 0	posina	(0)
PCE for trucks, ET 1.0		011	1.0	()
PCE for RVs, ER 1.0			1.0	
Heavy-vehicle adjustment factor, fHV 1.000			1.000)
Grade adjustment factor, (note-1) fg 1.00			1.00	
	c/h		585	pc/h
		0,	565	pe/II
Base percent time-spent-following, (note-4) BPTSFd		olo		
	14.8	•		
Percent time-spent-following, PTSFd	93.5	010		
Level of Service and Other Performa	ance Me	easu	res	
Level of service, LOS	Е			
<i>J</i> olume to capacity ratio, v/c	0.82			
Peak 15-min vehicle-miles of travel, VMT15	277	V	eh-mi	
	1074		eh-mi	
Peak 15-min total travel time, TT15	8.0		eh-h	
	1700		eh/h	
	1700		eh/h	
Directional Capacity	1700	V	eh/h	
Passing Lane Analysis_				
otal length of analysis segment, Lt			0.8	mi
length of two-lane highway upstream of the passing	lang	T.11		mi
ength of passing lane including tapers, Lpl	ranc,	шα		mi
			-	
verage travel speed, ATSd (from above)			34.7	mi/h
Percent time-spent-following, PTSFd (from above)			93.5	
Level of service, LOSd (from above)			E	
Average Travel Speed with Passi	lng Lar	ne		
Downstream length of two-lane highway within effect	ive			
length of passing lane for average travel speed			_	mi
Length of two-lane highway downstream of effective	., <u>_</u>			
length of the passing lane for average travel s	bood	та		mi
	speed,	цα	-	mı
dj. factor for the effect of passing lane				
on average speed, fpl			-	
verage travel speed including passing lane, ATSpl			-	
Percent free flow speed including passing lane, PFF	Spl		0.0	00
Percent Time-Spent-Following with P	Passing	g Lai	ne	
Percent Time-Spent-Following with F	_			
Percent Time-Spent-Following with F Downstream length of two-lane highway within effect	ive le	engtl		
Percent Time-Spent-Following with P ownstream length of two-lane highway within effect of passing lane for percent time-spent-following	ive le ng, Lde	engtl e	h _	mi
Percent Time-Spent-Following with P ownstream length of two-lane highway within effect of passing lane for percent time-spent-followin ength of two-lane highway downstream of effective	ive le ng, Lde length	engtl e n of	h _	mi
Percent Time-Spent-Following with P oownstream length of two-lane highway within effect of passing lane for percent time-spent-followin length of two-lane highway downstream of effective the passing lane for percent time-spent-followi	ive le ng, Lde length	engtl e n of	h _	
Percent Time-Spent-Following with P ownstream length of two-lane highway within effect of passing lane for percent time-spent-followin ength of two-lane highway downstream of effective the passing lane for percent time-spent-followin adj. factor for the effect of passing lane	ive le ng, Lde length	engtl e n of	h _	mi
Percent Time-Spent-Following with F oownstream length of two-lane highway within effect of passing lane for percent time-spent-following ength of two-lane highway downstream of effective the passing lane for percent time-spent-following adj. factor for the effect of passing lane on percent time-spent-following, fpl	ive le ng, Lde length	engtl e n of	h _	mi
Percent Time-Spent-Following with F ownstream length of two-lane highway within effect of passing lane for percent time-spent-following ength of two-lane highway downstream of effective the passing lane for percent time-spent-following dj. factor for the effect of passing lane on percent time-spent-following, fpl Percent time-spent-following	ive le ng, Lde length	engtl e n of	h _	mi
Percent Time-Spent-Following with F oownstream length of two-lane highway within effect of passing lane for percent time-spent-following ength of two-lane highway downstream of effective the passing lane for percent time-spent-following adj. factor for the effect of passing lane on percent time-spent-following, fpl	ive le ng, Lde length	engtl e n of	h _	mi
Percent Time-Spent-Following with F ownstream length of two-lane highway within effect of passing lane for percent time-spent-following ength of two-lane highway downstream of effective the passing lane for percent time-spent-following dj. factor for the effect of passing lane on percent time-spent-following, fpl Percent time-spent-following	cive le ng, Lde length ng, Ld	engtl e 1 of 1	h - - -	mi mi %
Percent Time-Spent-Following with F Downstream length of two-lane highway within effect of passing lane for percent time-spent-following Length of two-lane highway downstream of effective the passing lane for percent time-spent-following Adj. factor for the effect of passing lane on percent time-spent-following, fpl Percent time-spent-following including passing lane, PTSFpl Level of Service and Other Performance Measur	cive le ng, Lde length ng, Ld	engtl e 1 of 1	h - - -	mi mi %
Percent Time-Spent-Following with F Downstream length of two-lane highway within effect of passing lane for percent time-spent-following Length of two-lane highway downstream of effective the passing lane for percent time-spent-following Adj. factor for the effect of passing lane on percent time-spent-following, fpl Percent time-spent-following including passing lane, PTSFpl Level of Service and Other Performance Measur Level of service including passing lane, LOSpl	cive le ng, Lde length ng, Ld	engtl i of i	h - - assing	mi mi %
Percent Time-Spent-Following with F oownstream length of two-lane highway within effect of passing lane for percent time-spent-following length of two-lane highway downstream of effective the passing lane for percent time-spent-following adj. factor for the effect of passing lane on percent time-spent-following, fpl Percent time-spent-following including passing lane, PTSFpl Level of Service and Other Performance Measur	cive le ng, Lde length ng, Ld	engtl i of i	h - - -	mi mi %

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	1383.5
Effective width of outside lane, We	28.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	3.50
Bicycle LOS	D

- 1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific dewngrade segments are treated as level terrain.
- 2. If vi (vd or vo) >= 1,700 pc/h, terminate analysis-the LOS is F.
- 3. For the analysis direction only and for v>200 veh/h.
- 4. For the analysis direction only.
- 5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.
- * These items have been entered or edited to override calculated value

Phone: Fax: E-Mail: _____Directional Two-Lane Highway Segment Analysis______ Analyst DRR Agency/Co. CTG Date Performed2019-08-06Analysis Time PeriodSaturday PM Peak Hour Silverado Trail NB Highway Silverado North of Project From/To Jurisdiction Napa Co Analysis Year 2020 with Project Description Paraduxx Winery _____Input Data_____ Peak hour factor, PHF 0.88 Highway class Class 1 Shoulder width 8.0 ft % Trucks and buses 5 % 12.0ft% Trucks crawling0.01.5miTruck crawl speed0.0Level% Recreational vehicles2 0.0 Lane width % 0.0 Segment length mi/hr Level Terrain type 8 - mi % No-passing zones 85 - % Access point density 9 Grade: Length % Up/down /mi Analysis direction volume, Vd 582 veh/h Opposing direction volume, Vo 1130 veh/h _____Average Travel Speed____ Direction Analysis(d) Opposing (o) PCE for trucks, ET 1.1* 1.0 PCE for RVs, ER 1.0* 1.0 Heavy-vehicle adj. factor,(note-5) fHV 0.995 1.000 1.00 Grade adj. factor, (note-1) fg 1.00 665 pc/h Directional flow rate, (note-2) vi 1284 pc/h Free-Flow Speed from Field Measurement: Field measured speed, (note-3) S FM mi/h _ Observed total demand, (note-3) V veh/h Estimated Free-Flow Speed: Base free-flow speed, (note-3) BFFS 55.0 mi/h Adj. for lane and shoulder width, (note-3) fLS 0.0 mi/h Adj. for access point density,(note-3) fA 2.3 mi/h Free-flow speed, FFSd 52.8 mi/h mi/h Adjustment for no-passing zones, fnp 0.8 Average travel speed, ATSd 36.8 mi/h Percent Free Flow Speed, PFFS 69.8 %

Direction Analysis(d)		Opr	osing	(0)
PCE for trucks, ET 1.0		065	1.0	
PCE for RVs, ER 1.0			1.0	
Heavy-vehicle adjustment factor, fHV 1.000			1.000	
Grade adjustment factor, (note-1) fg 1.00			1.00	
	c/h		1284	pc/h
Base percent time-spent-following,(note-4) BPTSFd		00	1201	26/11
Adjustment for no-passing zones, fnp	16.0	0		
Percent time-spent-following, PTSFd	74.4	olo		
Level of Service and Other Perform	ance Me	asur	es	
	_			
Level of service, LOS	E			
Volume to capacity ratio, v/c	0.39			
eak 15-min vehicle-miles of travel, VMT15	248		eh-mi	
eak-hour vehicle-miles of travel, VMT60	873		eh-mi	
Peak 15-min total travel time, TT15	6.7		eh-h	
Capacity from ATS, CdATS	1700		eh/h	
Capacity from PTSF, CdPTSF	1700		eh/h	
Directional Capacity	1700	ve	h/h	
Passing Lane Analysis				
otal length of analysis segment, Lt			1.5	mi
ength of two-lane highway upstream of the passing	lane	T.11	_	mi
ength of passing lane including tapers, Lpl	Lanc,	10	_	mi
verage travel speed, ATSd (from above)			36.8	mi/h
Percent time-spent-following, PTSFd (from above)			74.4	(III / II
Level of service, LOSd (from above)			74.4 E	
level of service, host (from above)			10	
Average Travel Speed with Pass	ing Lan	e		
Downstream length of two-lane highway within effec	tive			
length of passing lane for average travel spee	d, Lde		-	mi
Jength of two-lane highway downstream of effective				
		Ld	_	mi
length of the passing lane for average travel		Ld	-	mi
length of the passing lane for average travel adj. factor for the effect of passing lane		Ld	_	mi
length of the passing lane for average travel dj. factor for the effect of passing lane on average speed, fpl	speed,	Ld	-	mi
<pre>length of the passing lane for average travel dj. factor for the effect of passing lane on average speed, fpl .verage travel speed including passing lane, ATSpl</pre>	speed,	Ld	-	
<pre>length of the passing lane for average travel dj. factor for the effect of passing lane on average speed, fpl average travel speed including passing lane, ATSpl</pre>	speed,	Ld	- - 0.0	mi %
<pre>length of the passing lane for average travel dj. factor for the effect of passing lane on average speed, fpl average travel speed including passing lane, ATSpl</pre>	speed, FSpl		- - 0.0	8
<pre>length of the passing lane for average travel adj. factor for the effect of passing lane on average speed, fpl average travel speed including passing lane, ATSpl Percent free flow speed including passing lane, PF Percent Time-Spent-Following with</pre>	speed, FSpl Passing	Lar	- 0.0 ne	8
<pre>length of the passing lane for average travel dj. factor for the effect of passing lane on average speed, fpl average travel speed including passing lane, ATSpl Percent free flow speed including passing lane, PFPercent Time-Spent-Following with Oownstream length of two-lane highway within effec of passing lane for percent time-spent-followi</pre>	speed, FSpl Passing tive le ng, Lde	Lar. ngth	- 0.0 ne	8
<pre>length of the passing lane for average travel dj. factor for the effect of passing lane on average speed, fpl average travel speed including passing lane, ATSpl ercent free flow speed including passing lane, PFPercent Time-Spent-Following with bownstream length of two-lane highway within effec of passing lane for percent time-spent-followi</pre>	speed, FSpl Passing tive le ng, Lde	Lar. ngth	- 0.0 ne	8
<pre>length of the passing lane for average travel dj. factor for the effect of passing lane on average speed, fpl .verage travel speed including passing lane, ATSpl ercent free flow speed including passing lane, PFPercent Time-Spent-Following with bownstream length of two-lane highway within effec of passing lane for percent time-spent-followi</pre>	speed, FSpl Passing tive le ng, Lde length	Lar ngth of	- 0.0 ne	8
<pre>length of the passing lane for average travel dj. factor for the effect of passing lane on average speed, fpl .verage travel speed including passing lane, ATSpl ercent free flow speed including passing lane, PFPercent Time-Spent-Following with ownstream length of two-lane highway within effec of passing lane for percent time-spent-followi ength of two-lane highway downstream of effective the passing lane for percent time-spent-follow</pre>	speed, FSpl Passing tive le ng, Lde length	Lar ngth of	- 0.0 ne	% mi
<pre>length of the passing lane for average travel dj. factor for the effect of passing lane on average speed, fpl average travel speed including passing lane, ATSpl ercent free flow speed including passing lane, PFPercent Time-Spent-Following with ownstream length of two-lane highway within effec of passing lane for percent time-spent-followi bength of two-lane highway downstream of effective the passing lane for percent time-spent-follow dj. factor for the effect of passing lane</pre>	speed, FSpl Passing tive le ng, Lde length	Lar ngth of	- 0.0 ne	% mi
<pre>length of the passing lane for average travel dj. factor for the effect of passing lane on average speed, fpl verage travel speed including passing lane, ATSpl ercent free flow speed including passing lane, PF Percent Time-Spent-Following with ownstream length of two-lane highway within effec of passing lane for percent time-spent-followi ength of two-lane highway downstream of effective the passing lane for percent time-spent-follow dj. factor for the effect of passing lane on percent time-spent-following, fpl</pre>	speed, FSpl Passing tive le ng, Lde length	Lar ngth of	- 0.0 ne	%
<pre>length of the passing lane for average travel dj. factor for the effect of passing lane on average speed, fpl .verage travel speed including passing lane, ATSpl ercent free flow speed including passing lane, PF Percent Time-Spent-Following with ownstream length of two-lane highway within effec of passing lane for percent time-spent-followi ength of two-lane highway downstream of effective the passing lane for percent time-spent-follow dj. factor for the effect of passing lane on percent time-spent-following, fpl</pre>	speed, FSpl Passing tive le ng, Lde length	Lar ngth of	- 0.0 ne	%
<pre>length of the passing lane for average travel dj. factor for the effect of passing lane on average speed, fpl verage travel speed including passing lane, ATSpl ercent free flow speed including passing lane, PF Percent Time-Spent-Following with ownstream length of two-lane highway within effec of passing lane for percent time-spent-followi ength of two-lane highway downstream of effective the passing lane for percent time-spent-follow dj. factor for the effect of passing lane on percent time-spent-following, fpl percent time-spent-following</pre>	speed, FSpl Passing tive le ng, Lde length ing, Ld	Lar ngth of	- 0.0 ne	% mi mi %
Adj. factor for the effect of passing lane on average speed, fpl Average travel speed including passing lane, ATSpl Percent free flow speed including passing lane, PF Percent Time-Spent-Following with Downstream length of two-lane highway within effec of passing lane for percent time-spent-followi Length of two-lane highway downstream of effective the passing lane for percent time-spent-follow Adj. factor for the effect of passing lane on percent time-spent-following, fpl Percent time-spent-following including passing lane, PTSFpl Level of Service and Other Performance Measu	speed, FSpl Passing tive le ng, Lde length ing, Ld res wit	Lar ngth of	- 0.0 ne	% mi mi %
<pre>length of the passing lane for average travel adj. factor for the effect of passing lane on average speed, fpl average travel speed including passing lane, ATSpl percent free flow speed including passing lane, PF Percent Time-Spent-Following with pownstream length of two-lane highway within effec of passing lane for percent time-spent-following length of two-lane highway downstream of effective the passing lane for percent time-spent-following adj. factor for the effect of passing lane on percent time-spent-following, fpl Percent time-spent-following including passing lane, PTSFpl Level of Service and Other Performance Measu evel of service including passing lane, LOSpl</pre>	speed, FSpl Passing tive le ng, Lde length ing, Ld	Lar ngth of h Pa	- 0.0 ne - - assing 1	% mi mi %
<pre>length of the passing lane for average travel dj. factor for the effect of passing lane on average speed, fpl verage travel speed including passing lane, ATSpl ercent free flow speed including passing lane, PF Percent Time-Spent-Following with ownstream length of two-lane highway within effec of passing lane for percent time-spent-followi ength of two-lane highway downstream of effective the passing lane for percent time-spent-follow dj. factor for the effect of passing lane on percent time-spent-following, fpl ercent time-spent-following including passing lane, PTSFpl Level of Service and Other Performance Measu</pre>	speed, FSpl Passing tive le ng, Lde length ing, Ld res wit	Lar ngth of h Pa	- 0.0 ne	% mi mi %

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	661.4
Effective width of outside lane, We	28.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	3.13
Bicycle LOS	С

- 1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific dewngrade segments are treated as level terrain.
- 2. If vi (vd or vo) >= 1,700 pc/h, terminate analysis-the LOS is F.
- 3. For the analysis direction only and for v>200 veh/h.
- 4. For the analysis direction only.
- 5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.
- * These items have been entered or edited to override calculated value

Phone: Fax: E-Mail: _____Directional Two-Lane Highway Segment Analysis______ Analyst DRR Agency/Co. CTG Date Performed2019-08-06Analysis Time PeriodSaturday PM Peak Hour Silverado Trail NB Highway Silverado South of Project From/To Jurisdiction Napa Co Analysis Year 2020 with Project Description Paraduxx Winery _____Input Data_____ Peak hour factor, PHF 0.88 Highway class Class 1 Shoulder width 8.0 ft % Trucks and buses 5 % 12.0ft% Trucks crawling0.01.5miTruck crawl speed0.0Level% Recreational vehicles2 Lane width 0.0 % Segment length 0.0 mi/hr Level Terrain type 8 - mi % No-passing zones 50 - % Access point density 12 Grade: Length % Up/down /mi Analysis direction volume, Vd 588 veh/h Opposing direction volume, Vo 1141 veh/h _____Average Travel Speed____ Direction Analysis(d) Opposing (o) PCE for trucks, ET 1.1* 1.0 PCE for RVs, ER 1.0* 1.0 Heavy-vehicle adj. factor,(note-5) fHV 0.995 1.000 1.00 Grade adj. factor, (note-1) fg 1.00 672 pc/h Directional flow rate, (note-2) vi 1297 pc/h Free-Flow Speed from Field Measurement: Field measured speed, (note-3) S FM mi/h _ Observed total demand, (note-3) V veh/h Estimated Free-Flow Speed: Base free-flow speed, (note-3) BFFS 55.0 mi/h Adj. for lane and shoulder width, (note-3) fLS 0.0 mi/h Adj. for access point density,(note-3) fA 3.0 mi/h Free-flow speed, FFSd 52.0 mi/h mi/h Adjustment for no-passing zones, fnp 0.6 Average travel speed, ATSd 36.1 mi/h Percent Free Flow Speed, PFFS 69.5 %

Direction Analysis(d)		100	oosina	(0)
PCE for trucks, ET 1.0		011	1.0	()
PCE for RVs, ER 1.0			1.0	
Heavy-vehicle adjustment factor, fHV 1.000			1.000)
Grade adjustment factor, (note-1) fg 1.00			1.00	,
	c/h		1297	pc/h
—		0,	1291	pe/m
Base percent time-spent-following, (note-4) BPTSFd		010		
	14.2	•		
Percent time-spent-following, PTSFd	74.2	010		
Level of Service and Other Performa	ance Me	easu	res	
Level of service, LOS	Е			
Volume to capacity ratio, v/c	0.39			
Peak 15-min vehicle-miles of travel, VMT15	251	V	eh-mi	
Peak-hour vehicle-miles of travel, VMT60	882		eh-mi	
Peak 15-min total travel time, TT15	6.9		eh-h	
Capacity from ATS, CdATS				
	1700		eh/h	
Capacity from PTSF, CdPTSF	1700		eh/h	
Directional Capacity	1700	V	eh/h	
Passing Lane Analysis_				
otal length of analysis segment, Lt			1.5	mi
	lana	т.,		
ength of two-lane highway upstream of the passing	rane,	Lu	-	mi
ength of passing lane including tapers, Lpl			-	mi
verage travel speed, ATSd (from above)			36.1	mi/h
Percent time-spent-following, PTSFd (from above)			74.2	
Level of service, LOSd (from above)			E	
Average Travel Speed with Passi	ng Lan	ne		
Downstream length of two-lane highway within effect	ive			
length of passing lane for average travel speed			_	mi
Length of two-lane highway downstream of effective	, Duc			
	maad	та		
length of the passing lane for average travel s	speed,	цα	-	mı
dj. factor for the effect of passing lane				
on average speed, fpl			-	
			-	
verage travel speed including passing lane, ATSpl				
verage travel speed including passing lane, ATSpl	Spl		0.0	olo
verage travel speed including passing lane, ATSpl	_	g Lai		-
Average travel speed including passing lane, ATSpl Percent free flow speed including passing lane, PFF Percent Time-Spent-Following with F	Passing		ne	-
Average travel speed including passing lane, ATSpl Percent free flow speed including passing lane, PFF Percent Time-Spent-Following with F Downstream length of two-lane highway within effect	Passing	engtl	ne	
Average travel speed including passing lane, ATSpl Dercent free flow speed including passing lane, PFF Percent Time-Spent-Following with F Downstream length of two-lane highway within effect of passing lane for percent time-spent-following	Passing tive le	engtl e	ne	-
verage travel speed including passing lane, ATSpl ercent free flow speed including passing lane, PFF Percent Time-Spent-Following with F ownstream length of two-lane highway within effect of passing lane for percent time-spent-following ength of two-lane highway downstream of effective	Passing tive length	engtl e n of	ne	
Average travel speed including passing lane, ATSpl Percent free flow speed including passing lane, PFF Percent Time-Spent-Following with F oownstream length of two-lane highway within effect of passing lane for percent time-spent-following ength of two-lane highway downstream of effective the passing lane for percent time-spent-following	Passing tive length	engtl e n of	ne	
Average travel speed including passing lane, ATSpl Percent free flow speed including passing lane, PFF Percent Time-Spent-Following with F oownstream length of two-lane highway within effect of passing lane for percent time-spent-following ength of two-lane highway downstream of effective the passing lane for percent time-spent-following adj. factor for the effect of passing lane	Passing tive length	engtl e n of	ne	
Average travel speed including passing lane, ATSple Percent free flow speed including passing lane, PFF Percent Time-Spent-Following with F oownstream length of two-lane highway within effect of passing lane for percent time-spent-following length of two-lane highway downstream of effective the passing lane for percent time-spent-following dj. factor for the effect of passing lane on percent time-spent-following, fpl	Passing tive length	engtl e n of	ne	
Average travel speed including passing lane, ATSpl Percent free flow speed including passing lane, PFF Percent Time-Spent-Following with F pownstream length of two-lane highway within effect of passing lane for percent time-spent-following ength of two-lane highway downstream of effective the passing lane for percent time-spent-following dj. factor for the effect of passing lane on percent time-spent-following, fpl Percent time-spent-following	Passing tive length	engtl e n of	ne	
Average travel speed including passing lane, ATSple Percent free flow speed including passing lane, PFF Percent Time-Spent-Following with F oownstream length of two-lane highway within effect of passing lane for percent time-spent-following length of two-lane highway downstream of effective the passing lane for percent time-spent-following dj. factor for the effect of passing lane on percent time-spent-following, fpl	Passing tive length	engtl e n of	ne	
Average travel speed including passing lane, ATSpl Percent free flow speed including passing lane, PFF Percent Time-Spent-Following with F pownstream length of two-lane highway within effect of passing lane for percent time-spent-following ength of two-lane highway downstream of effective the passing lane for percent time-spent-following dj. factor for the effect of passing lane on percent time-spent-following, fpl Percent time-spent-following	Passing tive leng, Lde length ng, Ld	engtl e 1 of 1	ne - - -	mi mi %
Average travel speed including passing lane, ATSpl Dercent free flow speed including passing lane, PFF Percent Time-Spent-Following with F Downstream length of two-lane highway within effect of passing lane for percent time-spent-following Length of two-lane highway downstream of effective the passing lane for percent time-spent-following Adj. factor for the effect of passing lane on percent time-spent-following, fpl Dercent time-spent-following including passing lane, PTSFpl Level of Service and Other Performance Measure	Passing tive length length .ng, Lde	engtl e 1 of 1	ne - - -	mi mi %
Average travel speed including passing lane, ATSpl Dercent free flow speed including passing lane, PFF Percent Time-Spent-Following with F Downstream length of two-lane highway within effect of passing lane for percent time-spent-following length of two-lane highway downstream of effective the passing lane for percent time-spent-following adj. factor for the effect of passing lane on percent time-spent-following, fpl Dercent time-spent-following including passing lane, PTSFpl Level of Service and Other Performance Measur sevel of service including passing lane, LOSpl	Passing tive leng, Lde length ng, Ld	engtl i of i	ne - - assing	mi mi %
<pre>Average travel speed including passing lane, ATSpl Percent free flow speed including passing lane, PFFPercent Time-Spent-Following with P Pownstream length of two-lane highway within effect of passing lane for percent time-spent-following ength of two-lane highway downstream of effective the passing lane for percent time-spent-following dj. factor for the effect of passing lane on percent time-spent-following, fpl Percent time-spent-following including passing lane, PTSFplLevel of Service and Other Performance Measure </pre>	Passing tive length length .ng, Lde	engtl i of i	ne - - -	mi mi %

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	668.2
Effective width of outside lane, We	28.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	3.13
Bicycle LOS	С

- 1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific dewngrade segments are treated as level terrain.
- 2. If vi (vd or vo) >= 1,700 pc/h, terminate analysis-the LOS is F.
- 3. For the analysis direction only and for v>200 veh/h.
- 4. For the analysis direction only.
- 5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.
- * These items have been entered or edited to override calculated value

Phone: Fax: E-Mail: _____Directional Two-Lane Highway Segment Analysis______ Analyst DRR Agency/Co. CTG Date Performed2019-08-06Analysis Time PeriodSaturday PM Peak Hour Silverado Trail SB Highway Silverado North of Project From/To Jurisdiction Napa Co Analysis Year 2020 with Project Description Paraduxx Winery _____Input Data_____ Peak hour factor, PHF 0.88 Highway class Class 1 Shoulder width 8.0 ft % Trucks and buses 5 % 12.0ft% Trucks crawling1.5miTruck crawl speedLevel% Recreational vehi 0.0 Lane width % Segment length 0.0 mi/hr Level % % Recreational vehicles 2 Terrain type - mi % No-passing zones 70 - % Access point density 9 Grade: Length % Up/down /mi Analysis direction volume, Vd 1130 veh/h Opposing direction volume, Vo 582 veh/h _____Average Travel Speed____ Direction Opposing (o) Analysis(d) PCE for trucks, ET 1.1* 1.1 PCE for RVs, ER 1.0* 1.0 Heavy-vehicle adj. factor,(note-5) fHV 0.995 0.995 Grade adj. factor,(note-1) fg 1.00 1.00 1291 pc/h Directional flow rate, (note-2) vi 665 pc/h Free-Flow Speed from Field Measurement: Field measured speed, (note-3) S FM mi/h Observed total demand, (note-3) V _ veh/h Estimated Free-Flow Speed: Base free-flow speed, (note-3) BFFS 55.0 mi/h Adj. for lane and shoulder width, (note-3) fLS 0.0 mi/h Adj. for access point density,(note-3) fA 2.3 mi/h Free-flow speed, FFSd 52.8 mi/h mi/h Adjustment for no-passing zones, fnp 1.5 Average travel speed, ATSd 36.1 mi/h Percent Free Flow Speed, PFFS 68.5 %

Direction Analysis(d)		1 0 0	posina	(0)
PCE for trucks, ET 1.0		-1-1	1.0	(-)
PCE for RVs, ER 1.0			1.0	
Heavy-vehicle adjustment factor, fHV 1.000			1.000)
Grade adjustment factor, (note-1) fg 1.00			1.00	
	c/h		661	pc/h
Base percent time-spent-following,(note-4) BPTSFd		00	001	F 0 / 11
Adjustment for no-passing zones, fnp	15.5	0		
Percent time-spent-following, PTSFd	92.5	00		
Level of Service and Other Perform	ance Me	easui	ces	
Level of service, LOS	E			
Volume to capacity ratio, v/c	0.76			
Peak 15-min vehicle-miles of travel, VMT15	482		eh-mi	
Peak-hour vehicle-miles of travel, VMT60	1695		eh-mi	
Peak 15-min total travel time, TT15	13.3		eh-h	
Capacity from ATS, CdATS	1700		eh/h	
Capacity from PTSF, CdPTSF	1700	ve	eh/h	
Directional Capacity	1700	ve	eh/h	
Passing Lane Analysis				
otal length of analysis segment, Lt			1.5	mi
ength of two-lane highway upstream of the passing	lane	T.11		mi
ength of passing lane including tapers, Lpl	ranc,	шu	_	mi
verage travel speed, ATSd (from above)			36.1	mi/h
Percent time-spent-following, PTSFd (from above)			92.5	111 / 11
Level of service, LOSd (from above)			Ε	
Average Travel Speed with Pass	ing La	ne		
Downstream length of two-lane highway within effec	tive			
length of passing lane for average travel spee	d, Lde		-	mi
length of two-lane highway downstream of effective				
length of the passing lane for average travel		Ld	-	mi
dj. factor for the effect of passing lane				
on average speed, fpl			-	
verage travel speed including passing lane, ATSpl			-	
Percent free flow speed including passing lane, PF	FSpl		0.0	90
			ne	
Percent Time-Spent-Following with	Passing	g Lar		
		-		
ownstream length of two-lane highway within effec	tive le	engtl		mi
ownstream length of two-lane highway within effec of passing lane for percent time-spent-followi	tive le ng, Lde	engtl e		mi
ownstream length of two-lane highway within effec of passing lane for percent time-spent-followi ength of two-lane highway downstream of effective	tive le ng, Lde lengtl	engti e h of		
ownstream length of two-lane highway within effec of passing lane for percent time-spent-followi ength of two-lane highway downstream of effective the passing lane for percent time-spent-follow	tive le ng, Lde lengtl	engti e h of		mi mi
ownstream length of two-lane highway within effec of passing lane for percent time-spent-followi ength of two-lane highway downstream of effective the passing lane for percent time-spent-follow dj. factor for the effect of passing lane	tive le ng, Lde lengtl	engti e h of		
ownstream length of two-lane highway within effec of passing lane for percent time-spent-followi hength of two-lane highway downstream of effective the passing lane for percent time-spent-follow adj. factor for the effect of passing lane on percent time-spent-following, fpl	tive le ng, Lde lengtl	engti e h of		
Downstream length of two-lane highway within effec of passing lane for percent time-spent-followin length of two-lane highway downstream of effective the passing lane for percent time-spent-follow adj. factor for the effect of passing lane on percent time-spent-following, fpl Percent time-spent-following	tive le ng, Lde lengtl	engti e h of		mi
Downstream length of two-lane highway within effec of passing lane for percent time-spent-followi length of two-lane highway downstream of effective the passing lane for percent time-spent-follow adj. factor for the effect of passing lane on percent time-spent-following, fpl Percent time-spent-following including passing lane, PTSFpl	tive le ng, Lde lengtl ing, Lo	engtl e h of d	1 - - -	mi %
Downstream length of two-lane highway within effec of passing lane for percent time-spent-followi Length of two-lane highway downstream of effective the passing lane for percent time-spent-follow Adj. factor for the effect of passing lane on percent time-spent-following, fpl Percent time-spent-following	tive le ng, Lde lengtl ing, Lo	engtl e h of d	1 - - -	mi %
<pre>Downstream length of two-lane highway within effec of passing lane for percent time-spent-followi length of two-lane highway downstream of effective the passing lane for percent time-spent-follow adj. factor for the effect of passing lane on percent time-spent-following, fpl Dercent time-spent-following including passing lane, PTSFpl Level of Service and Other Performance Measu</pre>	tive le ng, Lde lengtl ing, Lo	engtl e h of d	1 - - -	mi %
Downstream length of two-lane highway within effec of passing lane for percent time-spent-followi length of two-lane highway downstream of effective the passing lane for percent time-spent-follow adj. factor for the effect of passing lane on percent time-spent-following, fpl Percent time-spent-following including passing lane, PTSFpl	tive le ng, Lde lengtl ing, Lo res wit	engtl e h of d th Pa	1 - - -	mi %

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	1284.1
Effective width of outside lane, We	28.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	3.46
Bicycle LOS	С

- 1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific dewngrade segments are treated as level terrain.
- 2. If vi (vd or vo) >= 1,700 pc/h, terminate analysis-the LOS is F.
- 3. For the analysis direction only and for v>200 veh/h.
- 4. For the analysis direction only.
- 5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.
- * These items have been entered or edited to override calculated value

Phone: Fax: E-Mail: _____Directional Two-Lane Highway Segment Analysis______ Analyst DRR Agency/Co. CTG Date Performed 2019-08-06 Analysis Time Period Saturday PM Peak Hour Silverado Trail SB Highway Silverado South of Project From/To Jurisdiction Napa Co Analysis Year 2020 with Project Description Paraduxx Winery _____Input Data_____ Peak hour factor, PHF 0.88 Highway class Class 1 Shoulder width 8.0 ft % Trucks and buses 5 % 8.0 12.0 ft % Trucks crawlespeed 0.8 mi Truck crawl speed % Recreational vehi Lane width 0.0 % Segment length 0.0 mi/hr % Recreational vehicles 2 Terrain type 8 % No-passing zones 100 Access point density 12 Grade: Length - mi 8 00 Up/down _ /mi Analysis direction volume, Vd 1141 veh/h Opposing direction volume, Vo 588 veh/h _____Average Travel Speed____ Direction Opposing (o) Analysis(d) PCE for trucks, ET 1.1* 1.1 PCE for RVs, ER 1.0* 1.0 Heavy-vehicle adj. factor,(note-5) fHV 0.995 0.995 Grade adj. factor, (note-1) fg 1.00 1.00 1303 pc/h Directional flow rate, (note-2) vi 672 pc/h Free-Flow Speed from Field Measurement: Field measured speed, (note-3) S FM mi/h Observed total demand, (note-3) V _ veh/h Estimated Free-Flow Speed: Base free-flow speed, (note-3) BFFS 55.0 mi/h Adj. for lane and shoulder width, (note-3) fLS 0.0 mi/h Adj. for access point density,(note-3) fA 3.0 mi/h Free-flow speed, FFSd 52.0 mi/h 1.7 mi/h Adjustment for no-passing zones, fnp Average travel speed, ATSd 35.0 mi/h Percent Free Flow Speed, PFFS 67.3 ŝ

	ing			
Direction Analysis(d)		ra0	osing	(0)
PCE for trucks, ET 1.0		- <u>-</u> - <u>-</u> -	1.0	/
CE for RVs, ER 1.0			1.0	
Eavy-vehicle adjustment factor, fHV 1.000			1.000	า
Grade adjustment factor, (note-1) fg 1.00			1.00	5
	- /h			ng /h
	c/h	0	668	pc/h
Base percent time-spent-following, (note-4) BPTSFd		00		
djustment for no-passing zones, fnp	16.1			
ercent time-spent-following, PTSFd	92.7	olo		
Level of Service and Other Performa	ance Me	asur	res	
evel of service, LOS	Е			
olume to capacity ratio, v/c	0.77			
eak 15-min vehicle-miles of travel, VMT15	259	ve	eh-mi	
eak-hour vehicle-miles of travel, VMT60	913	ve	eh-mi	
eak 15-min total travel time, TT15	7.4		eh-h	
apacity from ATS, CdATS	1700		eh/h	
Capacity from PTSF, CdPTSF	1700		eh/h	
virectional Capacity	1700	ve	eh/h	
Passing Lane Analysis_				
otal length of analysis segment, Lt			0.8	mi
ength of two-lane highway upstream of the passing	lane	Lu	-	mi
ength of passing lane including tapers, Lpl	ranc,	Ца	_	mi
			- 2 E 0	
verage travel speed, ATSd (from above)			35.0	mi/h
Percent time-spent-following, PTSFd (from above)			92.7	
Level of service, LOSd (from above)			Ε	
Average Travel Speed with Passi	ing Lan	~		
Average fraver speed with Passi	Ling Lan	le		
		le		
oownstream length of two-lane highway within effect	cive	.e	_	
ownstream length of two-lane highway within effect length of passing lane for average travel speed	cive	.e	-	mi
oownstream length of two-lane highway within effect length of passing lane for average travel speed ength of two-lane highway downstream of effective	ive 1, Lde		-	mi
ownstream length of two-lane highway within effect length of passing lane for average travel speed ength of two-lane highway downstream of effective length of the passing lane for average travel s	ive 1, Lde		-	
ownstream length of two-lane highway within effect length of passing lane for average travel speed ength of two-lane highway downstream of effective length of the passing lane for average travel s dj. factor for the effect of passing lane	ive 1, Lde		-	mi
ownstream length of two-lane highway within effect length of passing lane for average travel speed ength of two-lane highway downstream of effective length of the passing lane for average travel s adj. factor for the effect of passing lane on average speed, fpl	ive 1, Lde		-	mi
ownstream length of two-lane highway within effect length of passing lane for average travel speed ength of two-lane highway downstream of effective length of the passing lane for average travel s dj. factor for the effect of passing lane on average speed, fpl average travel speed including passing lane, ATSpl	cive 1, Lde speed,		-	mi
ownstream length of two-lane highway within effect length of passing lane for average travel speed ength of two-lane highway downstream of effective length of the passing lane for average travel s dj. factor for the effect of passing lane on average speed, fpl verage travel speed including passing lane, ATSpl	cive 1, Lde speed,		-	mi
ownstream length of two-lane highway within effect length of passing lane for average travel speed ength of two-lane highway downstream of effective length of the passing lane for average travel s dj. factor for the effect of passing lane on average speed, fpl average travel speed including passing lane, ATSpl	cive d, Lde speed, Spl	Ld	- - - 0.0	mi mi %
Downstream length of two-lane highway within effect length of passing lane for average travel speed length of two-lane highway downstream of effective length of the passing lane for average travel s adj. factor for the effect of passing lane on average speed, fpl average travel speed including passing lane, ATSpl Percent free flow speed including passing lane, PFF Percent Time-Spent-Following with F	cive d, Lde speed, Spl Passing	Ld Lar	- - 0.0	mi mi %
<pre>Downstream length of two-lane highway within effect length of passing lane for average travel speed sength of two-lane highway downstream of effective length of the passing lane for average travel s adj. factor for the effect of passing lane on average speed, fpl average travel speed including passing lane, ATSpl Percent free flow speed including passing lane, PFF Percent Time-Spent-Following with F pownstream length of two-lane highway within effect</pre>	cive d, Lde speed, Spl Passing cive le	Ld Lar	- - 0.0	mi mi %
<pre>bownstream length of two-lane highway within effect length of passing lane for average travel speed ength of two-lane highway downstream of effective length of the passing lane for average travel s dj. factor for the effect of passing lane on average speed, fpl .verage travel speed including passing lane, ATSpl ercent free flow speed including passing lane, PFF Percent Time-Spent-Following with F bownstream length of two-lane highway within effect of passing lane for percent time-spent-followir</pre>	cive d, Lde speed, FSpl Passing cive le	Ld Lar Lar	- - 0.0	mi mi %
<pre>ownstream length of two-lane highway within effect length of passing lane for average travel speed ength of two-lane highway downstream of effective length of the passing lane for average travel s dj. factor for the effect of passing lane on average speed, fpl .verage travel speed including passing lane, ATSpl ercent free flow speed including passing lane, PFF Percent Time-Spent-Following with F ownstream length of two-lane highway within effect of passing lane for percent time-spent-followir ength of two-lane highway downstream of effective</pre>	cive d, Lde speed, Spl Passing cive le ng, Lde length	Ld Lar ingth	- - 0.0	mi mi %
<pre>bownstream length of two-lane highway within effect length of passing lane for average travel speed ength of two-lane highway downstream of effective length of the passing lane for average travel s dj. factor for the effect of passing lane on average speed, fpl verage travel speed including passing lane, ATSpl ercent free flow speed including passing lane, PFF Percent Time-Spent-Following with F pownstream length of two-lane highway within effect of passing lane for percent time-spent-followir ength of two-lane highway downstream of effective the passing lane for percent time-spent-followir</pre>	cive d, Lde speed, Spl Passing cive le ng, Lde length	Ld Lar ingth	- - 0.0	mi mi %
<pre>bownstream length of two-lane highway within effect length of passing lane for average travel speed ength of two-lane highway downstream of effective length of the passing lane for average travel s dj. factor for the effect of passing lane on average speed, fpl verage travel speed including passing lane, ATSpl ercent free flow speed including passing lane, PFF Percent Time-Spent-Following with F pownstream length of two-lane highway within effect of passing lane for percent time-spent-followir ength of two-lane highway downstream of effective the passing lane for percent time-spent-followir</pre>	cive d, Lde speed, Spl Passing cive le ng, Lde length	Ld Lar ingth	- - 0.0	mi mi %
<pre>ownstream length of two-lane highway within effect length of passing lane for average travel speed ength of two-lane highway downstream of effective length of the passing lane for average travel s dj. factor for the effect of passing lane on average speed, fpl verage travel speed including passing lane, ATSpl ercent free flow speed including passing lane, PFF Percent Time-Spent-Following with F ownstream length of two-lane highway within effect of passing lane for percent time-spent-followir ength of two-lane highway downstream of effective the passing lane for percent time-spent-followir</pre>	cive d, Lde speed, Spl Passing cive le ng, Lde length	Ld Lar ingth	- - 0.0	mi mi %
<pre>ownstream length of two-lane highway within effect length of passing lane for average travel speed ength of two-lane highway downstream of effective length of the passing lane for average travel s dj. factor for the effect of passing lane on average speed, fpl verage travel speed including passing lane, ATSpl ercent free flow speed including passing lane, PFF </pre>	cive d, Lde speed, Spl Passing cive le ng, Lde length	Ld Lar ingth	- - 0.0	mi mi %
<pre>ownstream length of two-lane highway within effect length of passing lane for average travel speed ength of two-lane highway downstream of effective length of the passing lane for average travel s dj. factor for the effect of passing lane on average speed, fpl verage travel speed including passing lane, ATSpl ercent free flow speed including passing lane, PFF </pre>	cive d, Lde speed, Spl Passing cive le ng, Lde length	Ld Lar ingth	- - 0.0	mi mi %
<pre>ownstream length of two-lane highway within effect length of passing lane for average travel speed ength of two-lane highway downstream of effective length of the passing lane for average travel s dj. factor for the effect of passing lane on average speed, fpl verage travel speed including passing lane, ATSpl ercent free flow speed including passing lane, PFF </pre>	cive d, Lde speed, FSpl Passing cive leng length ing, Ld	Ld Lar ingth of	- - 0.0 ne	mi mi % mi %
<pre>Downstream length of two-lane highway within effect length of passing lane for average travel speed length of two-lane highway downstream of effective length of the passing lane for average travel s adj. factor for the effect of passing lane on average speed, fpl average travel speed including passing lane, ATSpl percent free flow speed including passing lane, PFF Percent Time-Spent-Following with F bownstream length of two-lane highway within effect of passing lane for percent time-spent-following the passing lane for percent time-spent-following dj. factor for the effect of passing lane on percent time-spent-following, fpl Dercent time-spent-following including passing lane, PTSFpl Level of Service and Other Performance Measure</pre>	res wit	Ld Lar ingth of	- - 0.0 ne	mi mi % mi %
<pre>bownstream length of two-lane highway within effect length of passing lane for average travel speed ength of two-lane highway downstream of effective length of the passing lane for average travel s dj. factor for the effect of passing lane on average speed, fpl verage travel speed including passing lane, ATSpl ercent free flow speed including passing lane, PFF Percent Time-Spent-Following with F pownstream length of two-lane highway within effect of passing lane for percent time-spent-following ength of two-lane highway downstream of effective the passing lane for percent time-spent-following dj. factor for the effect of passing lane on percent time-spent-following, fpl ercent time-spent-following including passing lane, PTSFpl Level of Service and Other Performance Measur evel of service including passing lane, LOSpl</pre>	cive d, Lde speed, FSpl Passing cive leng length ing, Ld	Ld Lar Ingth of	- - 0.0 ne - - assing	mi mi % mi %
<pre>bownstream length of two-lane highway within effect length of passing lane for average travel speed ength of two-lane highway downstream of effective length of the passing lane for average travel s dj. factor for the effect of passing lane on average speed, fpl verage travel speed including passing lane, ATSpl ercent free flow speed including passing lane, PFF Percent Time-Spent-Following with F bownstream length of two-lane highway within effect of passing lane for percent time-spent-following ength of two-lane highway downstream of effective the passing lane for percent time-spent-following dj. factor for the effect of passing lane on percent time-spent-following, fpl ercent time-spent-following including passing lane, PTSFpl Level of Service and Other Performance Measure</pre>	res wit	Ld Lar Ingth of	- - 0.0 ne	mi mi % mi %

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	1296.6
Effective width of outside lane, We	28.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	3.47
Bicycle LOS	С

- 1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific dewngrade segments are treated as level terrain.
- 2. If vi (vd or vo) >= 1,700 pc/h, terminate analysis-the LOS is F.
- 3. For the analysis direction only and for v>200 veh/h.
- 4. For the analysis direction only.
- 5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.
- * These items have been entered or edited to override calculated value

Phone: Fax: E-Mail: _____Directional Two-Lane Highway Segment Analysis______ Analyst DRR Agency/Co. CTG Date Performed 2019-08-06 Analysis Time Period Friday PM Peak Hour Silverado Trail NB Highway Silverado North of Project From/To Jurisdiction Napa Co Analysis Year 2030 with Project Description Paraduxx Winery _____Input Data_____ Peak hour factor, PHF 0.97 Highway class Class 1 Shoulder width 8.0 ft % Trucks and buses 5 % 12.0ft% Trucks crawling0.01.5miTruck crawl speed0.0Level% Recreational vehicles2 Lane width 0.0 % 0.0 Segment length mi/hr Level Terrain type 8 - mi % No-passing zones 85 - % Access point density 9 Grade: Length % Up/down /mi Analysis direction volume, Vd 607 veh/h Opposing direction volume, Vo 1468 veh/h _____Average Travel Speed____ Direction Analysis(d) Opposing (o) PCE for trucks, ET 1.1* 1.0 PCE for RVs, ER 1.0* 1.0 Heavy-vehicle adj. factor,(note-5) fHV 0.995 1.000 1.00 Grade adj. factor, (note-1) fg 1.00 629 pc/h Directional flow rate, (note-2) vi 1513 pc/h Free-Flow Speed from Field Measurement: Field measured speed, (note-3) S FM mi/h _ Observed total demand, (note-3) V veh/h Estimated Free-Flow Speed: Base free-flow speed, (note-3) BFFS 55.0 mi/h Adj. for lane and shoulder width, (note-3) fLS 0.0 mi/h Adj. for access point density,(note-3) fA 2.3 mi/h Free-flow speed, FFSd 52.8 mi/h 0.6 mi/h Adjustment for no-passing zones, fnp Average travel speed, ATSd 35.5 mi/h Percent Free Flow Speed, PFFS 67.3 %

Percent Time-	-Spent-Follow:	ing		
Direction	Analysis(d)		Opposin	q (o)
PCE for trucks, ET	1.0		1.0	
PCE for RVs, ER	1.0		1.0	
Heavy-vehicle adjustment factor, fHV	1.000		1.0	
Grade adjustment factor, (note-1) fg	1.00		1.0	0
Directional flow rate, (note-2) vi		c/h	151	
Base percent time-spent-following, (not			010	-
Adjustment for no-passing zones, fnp		13.9		
Percent time-spent-following, PTSFd		73.1	00	
Level of Service and (Other Performa	ance Mea	asures	
Level of service, LOS		E		
Volume to capacity ratio, v/c		0.37		
Peak 15-min vehicle-miles of travel, V	7MT15	235	veh-mi	
Peak-hour vehicle-miles of travel, VM		233 911	ven mi veh-mi	
Peak 15-min total travel time, TT15		6.6	ven mi veh-h	
Capacity from ATS, CdATS		1700	ven n veh/h	
Capacity from PTSF, CdPTSF		1700	ven/h veh/h	
Directional Capacity		1700	veh/h veh/h	
Passing I	Lane Analysis			
Total longth of analyzic servert. It			1 -	
Total length of analysis segment, Lt	E the meeting	lana T	1.5	mi
Length of two-lane highway upstream of		lane, l	u -	mi
Length of passing lane including taper	_		-	mi
Average travel speed, ATSd (from above			35.5	mi/h
Percent time-spent-following, PTSFd (1	erom above)		73.1	
Level of service, LOSd (from above)			E	
Average Travel Spee	ed with Pass:	ing Lane	2	
Downstream length of two-lane highway	within effect	tive		
length of passing lane for average	e travel speed	d, Lde	-	mi
Length of two-lane highway downstream	of effective			
length of the passing lane for ave		speed, I	- b	mi
Adj. factor for the effect of passing	Talle			
on average speed, fpl			-	
Average travel speed including passing				0
Percent free flow speed including pass	sing lane, PF	FSPT	0.0	\$
Percent Time-Spent-Fo	llowing with 1	Passing	Lane	
Downstream length of two-lane highway			ngth	
of passing lane for percent time-s	spent-followin	ng, Lde	-	mi
Length of two-lane highway downstream			of	
the passing lane for percent time-		-		mi
Adj. factor for the effect of passing				
on percent time-spent-following, i			-	
Percent time-spent-following	-			
including passing lane, PTSFpl			-	00
Level of Service and Other Perfo	ormance Measu	res with	n Passin	g Lane
Level of service including passing lar		E		
Peak 15-min total travel time, TT15	те, поврт	<u>ت</u>	veh-h	
reak 15-min cotal travel time, 1115		-	v e11-11	
Bicycle Lev	vel of Service	e		

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	625.8
Effective width of outside lane, We	28.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	3.10
Bicycle LOS	С

- 1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific dewngrade segments are treated as level terrain.
- 2. If vi (vd or vo) >= 1,700 pc/h, terminate analysis-the LOS is F.
- 3. For the analysis direction only and for v>200 veh/h.
- 4. For the analysis direction only.
- 5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.
- * These items have been entered or edited to override calculated value

Phone: Fax: E-Mail: _____Directional Two-Lane Highway Segment Analysis______ Analyst DRR Agency/Co. CTG Date Performed 2019-08-06 Analysis Time Period Friday PM Peak Hour Silverado Trail NB Highway Silverado South of Project From/To Jurisdiction Napa Co Analysis Year 2030 with Project Description Paraduxx Winery _____Input Data_____ Peak hour factor, PHF 0.97 Highway class Class 1 Shoulder width 8.0 ft % Trucks and buses 5 % 12.0ft% Trucks crawling0.8miTruck crawl speedLevel% Recreational vehi Lane width 0.0 % Segment length 0.0 mi/hr % Recreational vehicles 2 Terrain type 8 - mi % No-passing zones 50 - % Access point density 12 Grade: Length % Up/down /mi Analysis direction volume, Vd 607 veh/h Opposing direction volume, Vo 1482 veh/h _____Average Travel Speed____ Direction Analysis(d) Opposing (o) PCE for trucks, ET 1.1* 1.0 PCE for RVs, ER 1.0* 1.0 Heavy-vehicle adj. factor,(note-5) fHV 0.995 1.000 1.00 Grade adj. factor,(note-1) fg 1.00 629 pc/h Directional flow rate, (note-2) vi 1528 pc/h Free-Flow Speed from Field Measurement: Field measured speed, (note-3) S FM mi/h _ Observed total demand, (note-3) V veh/h Estimated Free-Flow Speed: Base free-flow speed, (note-3) BFFS 55.0 mi/h Adj. for lane and shoulder width, (note-3) fLS 0.0 mi/h Adj. for access point density,(note-3) fA 3.0 mi/h Free-flow speed, FFSd 52.0 mi/h mi/h Adjustment for no-passing zones, fnp 0.5 Average travel speed, ATSd 34.7 mi/h Percent Free Flow Speed, PFFS 66.8 %

Direction Analysis(d)		Opposing	(0)
PCE for trucks, ET 1.0		1.0	()
PCE for RVs, ER 1.0		1.0	
Heavy-vehicle adjustment factor, fHV 1.000		1.000)
Grade adjustment factor, (note-1) fg 1.00		1.00	
	oc/h	1528	pc/h
Base percent time-spent-following,(note-4) BPTSFd		%	F 0 / 11
Adjustment for no-passing zones, fnp	12.2	0	
Percent time-spent-following, PTSFd	72.9	00	
Level of Service and Other Perform			
	lance me	asures	
Level of service, LOS	Ε		
/olume to capacity ratio, v/c	0.37		
Peak 15-min vehicle-miles of travel, VMT15	125	veh-mi	
Peak-hour vehicle-miles of travel, VMT60	486	veh-mi	
eak 15-min total travel time, TT15	3.6	veh-h	
Capacity from ATS, CdATS	1700	veh/h	
Capacity from PTSF, CdPTSF	1700	veh/h	
Directional Capacity	1700	veh/h	
Passing Lane Analysis	5		
otal length of analysis segment, Lt	-	0.8	mi
ength of two-lane highway upstream of the passing	f lane,	Lu –	mi
ength of passing lane including tapers, Lpl		_	mi
average travel speed, ATSd (from above)		34.7	mi/h
Percent time-spent-following, PTSFd (from above)		72.9	
Level of service, LOSd (from above)		E	
Average Travel Speed with Pass	ing Lan	le	
Average Travel Speed with Pass	-	le	
	tive		
Downstream length of two-lane highway within effect length of passing lane for average travel spec	tive d, Lde		
ownstream length of two-lane highway within effect length of passing lane for average travel spec length of two-lane highway downstream of effective length of the passing lane for average travel	tive d, Lde	-	
Downstream length of two-lane highway within effect length of passing lane for average travel spee length of two-lane highway downstream of effective length of the passing lane for average travel adj. factor for the effect of passing lane	tive d, Lde	-	mi
Downstream length of two-lane highway within effect length of passing lane for average travel spect length of two-lane highway downstream of effective length of the passing lane for average travel adj. factor for the effect of passing lane on average speed, fpl	tive d, Lde speed,	-	mi
ownstream length of two-lane highway within effect length of passing lane for average travel spect length of two-lane highway downstream of effective length of the passing lane for average travel adj. factor for the effect of passing lane on average speed, fpl average travel speed including passing lane, ATSpl	tive d, Lde speed,	- Ld - - -	mi mi
Downstream length of two-lane highway within effect length of passing lane for average travel spece Length of two-lane highway downstream of effective length of the passing lane for average travel Adj. factor for the effect of passing lane on average speed, fpl Average travel speed including passing lane, ATSpl	tive d, Lde speed,	-	mi
Downstream length of two-lane highway within effect length of passing lane for average travel spect length of two-lane highway downstream of effective length of the passing lane for average travel Adj. factor for the effect of passing lane on average speed, fpl Average travel speed including passing lane, ATSpl	rtive d, Lde speed, FSpl	- Ld - - 0.0	mi mi %
Downstream length of two-lane highway within effect length of passing lane for average travel spect Length of two-lane highway downstream of effective length of the passing lane for average travel Adj. factor for the effect of passing lane on average speed, fpl Average travel speed including passing lane, ATSpl Percent free flow speed including passing lane, PF Percent Time-Spent-Following with	tive d, Lde speed, FSpl Passing	- Ld - - 0.0 Lane	mi mi %
Downstream length of two-lane highway within effect length of passing lane for average travel spee length of two-lane highway downstream of effective length of the passing lane for average travel adj. factor for the effect of passing lane on average speed, fpl average travel speed including passing lane, ATSpl Percent free flow speed including passing lane, PF Percent Time-Spent-Following with Downstream length of two-lane highway within effect	tive d, Lde speed, FSpl Passing tive le	- Ld - - 0.0 Lane	mi mi %
<pre>Downstream length of two-lane highway within effect length of passing lane for average travel spee length of two-lane highway downstream of effective length of the passing lane for average travel adj. factor for the effect of passing lane on average speed, fpl average travel speed including passing lane, ATSpl Dercent free flow speed including passing lane, PF Percent Time-Spent-Following with Downstream length of two-lane highway within effect of passing lane for percent time-spent-following</pre>	tive d, Lde speed, FSpl Passing tive le	- Ld - - 0.0 Lane	mi mi %
<pre>bownstream length of two-lane highway within effect length of passing lane for average travel spee ength of two-lane highway downstream of effective length of the passing lane for average travel adj. factor for the effect of passing lane on average speed, fpl average travel speed including passing lane, ATSpl Percent free flow speed including passing lane, PF Percent Time-Spent-Following with pownstream length of two-lane highway within effect of passing lane for percent time-spent-following ength of two-lane highway downstream of effective</pre>	tive d, Lde speed, FSpl Passing tive le ng, Lde length	- Ld - - 0.0 J Lane ength - - - 0.0	mi mi %
<pre>pownstream length of two-lane highway within effect length of passing lane for average travel spee ength of two-lane highway downstream of effective length of the passing lane for average travel adj. factor for the effect of passing lane on average speed, fpl average travel speed including passing lane, ATSpl percent free flow speed including passing lane, PF Percent Time-Spent-Following with of passing lane for percent time-spent-following ength of two-lane highway downstream of effective the passing lane for percent time-spent-following the passing lane for percent time-spent-following the passing lane for percent time-spent</pre>	tive d, Lde speed, FSpl Passing tive le ng, Lde length	- Ld - - 0.0 J Lane ength - - - 0.0	mi mi %
<pre>Downstream length of two-lane highway within effect length of passing lane for average travel spee length of two-lane highway downstream of effective length of the passing lane for average travel adj. factor for the effect of passing lane on average speed, fpl average travel speed including passing lane, ATSpl Dercent free flow speed including passing lane, PF Percent Time-Spent-Following with Downstream length of two-lane highway within effect of passing lane for percent time-spent-following the passing lane for percent time-spent-following the passing lane for percent time-spent-following dj. factor for the effect of passing lane</pre>	tive d, Lde speed, FSpl Passing tive le ng, Lde length	- Ld - - 0.0 J Lane ength - - - 0.0	mi mi %
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<pre>Downstream length of two-lane highway within effect length of passing lane for average travel spee length of two-lane highway downstream of effective length of the passing lane for average travel adj. factor for the effect of passing lane on average speed, fpl average travel speed including passing lane, ATSpl Dercent free flow speed including passing lane, PF </pre>	tive d, Lde speed, FSpl Passing tive le ng, Lde length	- Ld - - 0.0 J Lane ength - - - 0.0	mi mi %
<pre>Downstream length of two-lane highway within effect length of passing lane for average travel spee length of two-lane highway downstream of effective length of the passing lane for average travel adj. factor for the effect of passing lane on average speed, fpl average travel speed including passing lane, ATSpl Dercent free flow speed including passing lane, PF </pre>	tive d, Lde speed, FSpl Passing tive le ng, Lde length ying, Ld	- Ld - - 0.0 g Lane ength s - i of l - - -	mi mi % mi %
Downstream length of two-lane highway within effect length of passing lane for average travel speed Length of the passing lane for average travel Adj. factor for the effect of passing lane on average speed, fpl Average travel speed including passing lane, ATSpl Percent free flow speed including passing lane, PF 	tive d, Lde speed, FSpl Passing tive le ng, Lde e length ring, Ld	- Ld - - 0.0 g Lane ength s - i of l - - -	mi mi % mi %
<pre>Downstream length of two-lane highway within effect length of passing lane for average travel speed length of two-lane highway downstream of effective length of the passing lane for average travel adj. factor for the effect of passing lane on average speed, fpl average travel speed including passing lane, ATSpl Dercent free flow speed including passing lane, PF Percent Time-Spent-Following with Downstream length of two-lane highway within effect of passing lane for percent time-spent-following the passing lane for percent time-spent-following di, factor for the effect of passing lane on percent time-spent-following, fpl Dercent time-spent-following including passing lane, PTSFpl Level of Service and Other Performance Measure devel of service including passing lane, LOSpl</pre>	tive d, Lde speed, FSpl Passing tive le ng, Lde length ying, Ld	- Ld - - 0.0 (Lane ength - of l - - - h Passing	mi mi % mi mi
Downstream length of two-lane highway within effect length of passing lane for average travel speed ength of two-lane highway downstream of effective length of the passing lane for average travel adj. factor for the effect of passing lane on average speed, fpl average travel speed including passing lane, ATSpl Dercent free flow speed including passing lane, PF Percent Time-Spent-Following with Downstream length of two-lane highway within effect of passing lane for percent time-spent-following ength of two-lane highway downstream of effective the passing lane for percent time-spent-following dj. factor for the effect of passing lane on percent time-spent-following, fpl Dercent time-spent-following including passing lane, PTSFpl	tive d, Lde speed, FSpl Passing tive le ng, Lde e length ring, Ld	- Ld - - 0.0 g Lane ength s - i of l - - -	mi mi % mi mi

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	625.8
Effective width of outside lane, We	28.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	3.10
Bicycle LOS	С

- 1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific dewngrade segments are treated as level terrain.
- 2. If vi (vd or vo) >= 1,700 pc/h, terminate analysis-the LOS is F.
- 3. For the analysis direction only and for v>200 veh/h.
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- 5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.
- * These items have been entered or edited to override calculated value

Phone: Fax: E-Mail: _____Directional Two-Lane Highway Segment Analysis______ Analyst DRR Agency/Co. CTG Date Performed 2019-08-06 Analysis Time Period Friday PM Peak Hour Silverado Trail SB Highway Silverado North of Project From/To Jurisdiction Napa Co Analysis Year 2030 with Project Description Paraduxx Winery _____Input Data_____ Peak hour factor, PHF 0.97 Highway class Class 1 Shoulder width 8.0 ft % Trucks and buses 5 % 12.0ft% Trucks crawling0.01.5miTruck crawl speed0.0Level% Recreational vehicles2 Lane width 0.0 % 0.0 Segment length mi/hr Level % Terrain type % No-passing zones 70 Access point density 9 - mi - % Grade: Length % Up/down /mi Analysis direction volume, Vd 1468 veh/h Opposing direction volume, Vo 607 veh/h _____Average Travel Speed____ Direction Opposing (o) Analysis(d) PCE for trucks, ET 1.1* 1.1 PCE for RVs, ER 1.0* 1.0 Heavy-vehicle adj. factor,(note-5) fHV 0.995 0.995 Grade adj. factor,(note-1) fg 1.00 1.00 1521 pc/h Directional flow rate, (note-2) vi 629 pc/h Free-Flow Speed from Field Measurement: Field measured speed, (note-3) S FM mi/h Observed total demand, (note-3) V _ veh/h Estimated Free-Flow Speed: Base free-flow speed, (note-3) BFFS 55.0 mi/h Adj. for lane and shoulder width, (note-3) fLS 0.0 mi/h Adj. for access point density,(note-3) fA 2.3 mi/h Free-flow speed, FFSd 52.8 mi/h mi/h Adjustment for no-passing zones, fnp 1.6 Average travel speed, ATSd 34.5 mi/h Percent Free Flow Speed, PFFS 65.4 %

	wing			
Direction Analysis(d)		1 0 0	posina	(0)
PCE for trucks, ET 1.0		1	1.0	(-)
PCE for RVs, ER 1.0			1.0	
Heavy-vehicle adjustment factor, fHV 1.000			1.000	
Grade adjustment factor, (note-1) fg 1.00			1.00	
	pc/h		626	pc/h
Base percent time-spent-following,(note-4) BPTSFd	-	olo	020	P 0 / 11
Adjustment for no-passing zones, fnp	13.4	0		
Percent time-spent-following, PTSFd	95.6	00		
Level of Service and Other Perfor	mance M	easu	ces	
Level of service, LOS	Ε			
<i>N</i> olume to capacity ratio, v/c	0.89			
Peak 15-min vehicle-miles of travel, VMT15	568		eh-mi	
Peak-hour vehicle-miles of travel, VMT60	2202		eh-mi	
Peak 15-min total travel time, TT15	16.5		eh-h	
Capacity from ATS, CdATS	1700		eh/h	
Capacity from PTSF, CdPTSF	1700	Ve	eh/h	
Directional Capacity	1700	Ve	eh/h	
Passing Lane Analysi	s			
lotal longth of analyzing gagment. It			1.5	mi
Cotal length of analysis segment, Lt	a lar-	т		mi mi
length of two-lane highway upstream of the passin	g lane,	Lu		mi
ength of passing lane including tapers, Lpl			-	mi
Average travel speed, ATSd (from above)			34.5	mi/h
Percent time-spent-following, PTSFd (from above)			95.6	
Level of service, LOSd (from above)			Ε	
Average Travel Speed with Pas	sing La	ne		
Downstream length of two-lane highway within effe	ctive			
length of passing lane for average travel spe			_	mi
length of two-lane highway downstream of effectiv				
	0	- 1		
	speed.	Lа	-	mi
length of the passing lane for average travel	speed,	Lа	-	mi
length of the passing lane for average travel dj. factor for the effect of passing lane	speed,	Lа	_	mi
length of the passing lane for average travel adj. factor for the effect of passing lane on average speed, fpl		La	-	mi
length of the passing lane for average travel dj. factor for the effect of passing lane on average speed, fpl average travel speed including passing lane, ATSp	1	Lа	-	
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length of the passing lane for average travel Adj. factor for the effect of passing lane on average speed, fpl Average travel speed including passing lane, ATSp	l FFSpl		- - 0.0	ક
<pre>length of the passing lane for average travel Adj. factor for the effect of passing lane on average speed, fpl Average travel speed including passing lane, ATSp Percent free flow speed including passing lane, PPercent Time-Spent-Following with</pre>	l FFSpl Passin	g Lai	- - 0.0 ne	ક
<pre>length of the passing lane for average travel adj. factor for the effect of passing lane on average speed, fpl average travel speed including passing lane, ATSp Percent free flow speed including passing lane, P Percent Time-Spent-Following with Downstream length of two-lane highway within effect</pre>	l FFSpl Passin ctive l	g Laı engtl	- - 0.0 ne	ક
<pre>length of the passing lane for average travel dj. factor for the effect of passing lane on average speed, fpl average travel speed including passing lane, ATSp ercent free flow speed including passing lane, PPercent Time-Spent-Following with bownstream length of two-lane highway within effe of passing lane for percent time-spent-follow</pre>	l FFSpl Passin ctive l ing, Ld	g Lan engtl e	- - 0.0 ne	8
<pre>length of the passing lane for average travel dj. factor for the effect of passing lane on average speed, fpl average travel speed including passing lane, ATSp percent free flow speed including passing lane, P Percent Time-Spent-Following with ownstream length of two-lane highway within effe of passing lane for percent time-spent-follow length of two-lane highway downstream of effective</pre>	l FFSpl Passin ctive l ing, Ld re lengt	g Lan engtl e h of	- - 0.0 ne	8
<pre>length of the passing lane for average travel dj. factor for the effect of passing lane on average speed, fpl average travel speed including passing lane, ATSp percent free flow speed including passing lane, P Percent Time-Spent-Following with ownstream length of two-lane highway within effe of passing lane for percent time-spent-follow ength of two-lane highway downstream of effectiv the passing lane for percent time-spent-follow</pre>	l FFSpl Passin ctive l ing, Ld re lengt	g Lan engtl e h of	- - 0.0 ne	% mi
<pre>length of the passing lane for average travel adj. factor for the effect of passing lane on average speed, fpl average travel speed including passing lane, ATSp Percent free flow speed including passing lane, P Percent Time-Spent-Following with Oownstream length of two-lane highway within effe of passing lane for percent time-spent-follow Length of two-lane highway downstream of effectiv the passing lane for percent time-spent-follow dj. factor for the effect of passing lane</pre>	l FFSpl Passin ctive l ing, Ld re lengt	g Lan engtl e h of	- - 0.0 ne	% mi
<pre>length of the passing lane for average travel adj. factor for the effect of passing lane on average speed, fpl average travel speed including passing lane, ATSp percent free flow speed including passing lane, P Percent Time-Spent-Following with ownstream length of two-lane highway within effe of passing lane for percent time-spent-follow length of two-lane highway downstream of effectiv the passing lane for percent time-spent-follo dj. factor for the effect of passing lane on percent time-spent-following, fpl</pre>	l FFSpl Passin ctive l ing, Ld re lengt	g Lan engtl e h of	- - 0.0 ne	% mi
<pre>length of the passing lane for average travel Adj. factor for the effect of passing lane on average speed, fpl Average travel speed including passing lane, ATSp Percent free flow speed including passing lane, P Percent Time-Spent-Following with Oownstream length of two-lane highway within effe of passing lane for percent time-spent-follow Length of two-lane highway downstream of effectiv the passing lane for percent time-spent-follow dj. factor for the effect of passing lane on percent time-spent-following, fpl</pre>	l FFSpl Passin ctive l ing, Ld re lengt	g Lan engtl e h of	- - 0.0 ne	%
<pre>length of the passing lane for average travel adj. factor for the effect of passing lane on average speed, fpl average travel speed including passing lane, ATSp percent free flow speed including passing lane, P Percent Time-Spent-Following with oownstream length of two-lane highway within effe of passing lane for percent time-spent-follow length of two-lane highway downstream of effectiv the passing lane for percent time-spent-follow dj. factor for the effect of passing lane on percent time-spent-following, fpl Percent time-spent-following</pre>	l FFSpl Ctive l ing, Ld e lengt wing, L	g Lan engtl e h of d	- - 0.0 ne - - -	% mi mi %
<pre>length of the passing lane for average travel Adj. factor for the effect of passing lane on average speed, fpl Average travel speed including passing lane, ATSp Percent free flow speed including passing lane, P Percent Time-Spent-Following with Downstream length of two-lane highway within effe of passing lane for percent time-spent-follow Length of two-lane highway downstream of effectiv the passing lane for percent time-spent-follow Adj. factor for the effect of passing lane on percent time-spent-following, fpl Percent time-spent-following including passing lane, PTSFpl Level of Service and Other Performance Meas</pre>	l FFSpl ctive l ing, Ld e lengt wing, L	g Lan engtl e h of d	- - 0.0 ne - - -	% mi mi %
<pre>length of the passing lane for average travel Adj. factor for the effect of passing lane on average speed, fpl Average travel speed including passing lane, ATSp Percent free flow speed including passing lane, P Percent Time-Spent-Following with Downstream length of two-lane highway within effe of passing lane for percent time-spent-follow Length of two-lane highway downstream of effectiv the passing lane for percent time-spent-follow doj. factor for the effect of passing lane on percent time-spent-following, fpl Percent time-spent-following including passing lane, PTSFpl Level of Service and Other Performance Meas Level of service including passing lane, LOSpl</pre>	l FFSpl Ctive l ing, Ld e lengt wing, L	g Lan engtl e h of d	- - 0.0 ne - - -	% mi mi %
<pre>length of the passing lane for average travel Adj. factor for the effect of passing lane on average speed, fpl Average travel speed including passing lane, ATSp Percent free flow speed including passing lane, P Percent Time-Spent-Following with Downstream length of two-lane highway within effe of passing lane for percent time-spent-follow Length of two-lane highway downstream of effectiv the passing lane for percent time-spent-follow doi, factor for the effect of passing lane on percent time-spent-following, fpl Percent time-spent-following including passing lane, PTSFpl</pre>	l FFSpl ctive l ing, Ld e lengt wing, L	g Lan engtl e h of d th Pa	- - 0.0 ne - - -	% mi mi %

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	1513.4
Effective width of outside lane, We	28.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	3.55
Bicycle LOS	D

- 1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific dewngrade segments are treated as level terrain.
- 2. If vi (vd or vo) >= 1,700 pc/h, terminate analysis-the LOS is F.
- 3. For the analysis direction only and for v>200 veh/h.
- 4. For the analysis direction only.
- 5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.
- * These items have been entered or edited to override calculated value

Phone: Fax: E-Mail: _____Directional Two-Lane Highway Segment Analysis______ Analyst DRR Agency/Co. CTG Date Performed 2019-08-06 Analysis Time Period Friday PM Peak Hour Silverado Trail SB Highway Silverado South of Project From/To Jurisdiction Napa Co Analysis Year 2030 with Project Description Paraduxx Winery _____Input Data_____ Peak hour factor, PHF 0.97 Highway class Class 1 Shoulder width 8.0 ft % Trucks and buses 5 % 8.0 10 12.0 ft % Trucks crawlespeed 0.8 mi Truck crawl speed % Recreational vehi Lane width 0.0 % Segment length 0.0 mi/hr % Recreational vehicles 2 Terrain type % No-passing zones 100 8 Grade: Length - mi 8 Access point density 12 Up/down _ 00 /mi Analysis direction volume, Vd 1482 veh/h Opposing direction volume, Vo 607 veh/h _____Average Travel Speed____ Direction Opposing (o) Analysis(d) PCE for trucks, ET 1.1* 1.1 PCE for RVs, ER 1.0* 1.0 Heavy-vehicle adj. factor,(note-5) fHV 0.995 0.995 Grade adj. factor,(note-1) fg 1.00 1.00 1536 pc/h Directional flow rate, (note-2) vi 629 pc/h Free-Flow Speed from Field Measurement: Field measured speed, (note-3) S FM mi/h Observed total demand, (note-3) V _ veh/h Estimated Free-Flow Speed: Base free-flow speed, (note-3) BFFS 55.0 mi/h Adj. for lane and shoulder width, (note-3) fLS 0.0 mi/h Adj. for access point density,(note-3) fA 3.0 mi/h Free-flow speed, FFSd 52.0 mi/h mi/h Adjustment for no-passing zones, fnp 1.8 Average travel speed, ATSd 33.4 mi/h Percent Free Flow Speed, PFFS 64.2 %

Direction Analysis(d)		٥nr	posing	(0)
PCE for trucks, ET 1.0		001	1.0	(0)
PCE for RVs, ER 1.0			1.0	
Heavy-vehicle adjustment factor, fHV 1.000			1.000)
Grade adjustment factor, (note-1) fg 1.00			1.00	,
	c/h		626	pc/h
Base percent time-spent-following,(note-4) BPTSFd		00	020	26/11
Adjustment for no-passing zones, fnp	14.1	0		
Percent time-spent-following, PTSFd	96.3	00		
Level of Service and Other Performa	ance Me	easui	res	
Level of service, LOS	E			
	E 0.90			
olume to capacity ratio, v/c			- la	
eak 15-min vehicle-miles of travel, VMT15	306		eh-mi	
eak-hour vehicle-miles of travel, VMT60	1186		eh-mi	
Peak 15-min total travel time, TT15	9.2		eh-h	
Capacity from ATS, CdATS	1700		eh/h	
Capacity from PTSF, CdPTSF	1700		eh/h	
Directional Capacity	1700	ve	eh/h	
Passing Lane Analysis				
otal length of analysis segment, Lt			0.8	mi
ength of two-lane highway upstream of the passing	lane.	Lu	_	mi
ength of passing lane including tapers, Lpl	,		_	mi
verage travel speed, ATSd (from above)			33.4	mi/h
Percent time-spent-following, PTSFd (from above)			96.3	
Level of service, LOSd (from above)			E	
Average Travel Speed with Pass:	ing Lar	ie		
	Ing Dan	IC		
length of passing lane for average travel speed			_	mi
length of passing lane for average travel speed ength of two-lane highway downstream of effective	d, Lde		-	mi
length of passing lane for average travel speed ength of two-lane highway downstream of effective length of the passing lane for average travel s	d, Lde		-	mi mi
length of passing lane for average travel speed ength of two-lane highway downstream of effective length of the passing lane for average travel s	d, Lde		-	
length of passing lane for average travel speed ength of two-lane highway downstream of effective length of the passing lane for average travel s	d, Lde		-	
<pre>length of passing lane for average travel speed ength of two-lane highway downstream of effective length of the passing lane for average travel s dj. factor for the effect of passing lane on average speed, fpl</pre>	d, Lde		- - -	
<pre>length of passing lane for average travel speed ength of two-lane highway downstream of effective length of the passing lane for average travel s adj. factor for the effect of passing lane on average speed, fpl average travel speed including passing lane, ATSpl</pre>	d, Lde speed,		- - - 0.0	
<pre>length of passing lane for average travel speed ength of two-lane highway downstream of effective length of the passing lane for average travel s adj. factor for the effect of passing lane on average speed, fpl average travel speed including passing lane, ATSpl</pre>	d, Lde speed, FSpl	Ld	- - 0.0	mi %
<pre>length of passing lane for average travel speed length of two-lane highway downstream of effective length of the passing lane for average travel s adj. factor for the effect of passing lane on average speed, fpl average travel speed including passing lane, ATSpl Percent free flow speed including passing lane, PFI </pre>	d, Lde speed, FSpl Passing	Ld g Lar	- - 0.0 ne	mi %
<pre>length of passing lane for average travel speed ength of two-lane highway downstream of effective length of the passing lane for average travel s adj. factor for the effect of passing lane on average speed, fpl average travel speed including passing lane, ATSpl ercent free flow speed including passing lane, PFD Percent Time-Spent-Following with D pownstream length of two-lane highway within effect</pre>	d, Lde speed, FSpl Passing tive le	Ld g Lar engtl	- - 0.0 ne	mi %
<pre>length of passing lane for average travel speed ength of two-lane highway downstream of effective length of the passing lane for average travel s dj. factor for the effect of passing lane on average speed, fpl verage travel speed including passing lane, ATSpl ercent free flow speed including passing lane, PFI Percent Time-Spent-Following with n ownstream length of two-lane highway within effect of passing lane for percent time-spent-following</pre>	d, Lde speed, FSpl Passing tive le ng, Lde	Ld g Lar engtl	- - 0.0 ne	mi %
<pre>length of passing lane for average travel speed ength of two-lane highway downstream of effective length of the passing lane for average travel a dj. factor for the effect of passing lane on average speed, fpl verage travel speed including passing lane, ATSpl ercent free flow speed including passing lane, PFI Percent Time-Spent-Following with I fownstream length of two-lane highway within effect of passing lane for percent time-spent-following ength of two-lane highway downstream of effective</pre>	d, Lde speed, FSpl Passing tive le ng, Lde length	Ld g Lar ength e 1 of	- - 0.0 ne	mi %
<pre>length of passing lane for average travel speed ength of two-lane highway downstream of effective length of the passing lane for average travel s dj. factor for the effect of passing lane on average speed, fpl verage travel speed including passing lane, ATSpl ercent free flow speed including passing lane, PFI Percent Time-Spent-Following with I ownstream length of two-lane highway within effect of passing lane for percent time-spent-following ength of two-lane highway downstream of effective the passing lane for percent time-spent-following</pre>	d, Lde speed, FSpl Passing tive le ng, Lde length	Ld g Lar ength e 1 of	- - 0.0 ne	mi %
<pre>length of passing lane for average travel speed ength of two-lane highway downstream of effective length of the passing lane for average travel s dj. factor for the effect of passing lane on average speed, fpl verage travel speed including passing lane, ATSpl ercent free flow speed including passing lane, PFI Percent Time-Spent-Following with I ownstream length of two-lane highway within effect of passing lane for percent time-spent-following ength of two-lane highway downstream of effective the passing lane for percent time-spent-following dj. factor for the effect of passing lane</pre>	d, Lde speed, FSpl Passing tive le ng, Lde length	Ld g Lar ength e 1 of	- - 0.0 ne	mi %
<pre>length of passing lane for average travel speed ength of two-lane highway downstream of effective length of the passing lane for average travel s dj. factor for the effect of passing lane on average speed, fpl verage travel speed including passing lane, ATSpl ercent free flow speed including passing lane, PFI Percent Time-Spent-Following with I ownstream length of two-lane highway within effect of passing lane for percent time-spent-followin ength of two-lane highway downstream of effective the passing lane for percent time-spent-followin dj. factor for the effect of passing lane on percent time-spent-following, fpl</pre>	d, Lde speed, FSpl Passing tive le ng, Lde length	Ld g Lar ength e 1 of	- - 0.0 ne	mi %
<pre>length of passing lane for average travel speed ength of two-lane highway downstream of effective length of the passing lane for average travel s adj. factor for the effect of passing lane on average speed, fpl verage travel speed including passing lane, ATSpl ercent free flow speed including passing lane, PFI </pre>	d, Lde speed, FSpl Passing tive le ng, Lde length	Ld g Lar ength e 1 of	- - 0.0 ne	mi %
<pre>length of passing lane for average travel speed ength of two-lane highway downstream of effective length of the passing lane for average travel s dj. factor for the effect of passing lane on average speed, fpl verage travel speed including passing lane, ATSpl ercent free flow speed including passing lane, PFI Percent Time-Spent-Following with I pownstream length of two-lane highway within effect of passing lane for percent time-spent-following ength of two-lane highway downstream of effective the passing lane for percent time-spent-following dj. factor for the effect of passing lane on percent time-spent-following, fpl ercent time-spent-following</pre>	d, Lde speed, FSpl Passing tive le ng, Lde length ing, Ld	Ld g Lar ength h of	- 0.0 ne - - -	mi % mi %
<pre>Length of two-lane highway downstream of effective length of the passing lane for average travel a dj. factor for the effect of passing lane on average speed, fpl Average travel speed including passing lane, ATSpl Dercent free flow speed including passing lane, PFP </pre>	d, Lde speed, FSpl Passing tive le ng, Lde length ing, Ld	Ld g Lar ength h of	- 0.0 ne - - -	mi % mi %
<pre>length of passing lane for average travel speed ength of two-lane highway downstream of effective length of the passing lane for average travel a dj. factor for the effect of passing lane on average speed, fpl verage travel speed including passing lane, ATSpl ercent free flow speed including passing lane, PFP Percent Time-Spent-Following with n oownstream length of two-lane highway within effect of passing lane for percent time-spent-following ength of two-lane highway downstream of effective the passing lane for percent time-spent-following dj. factor for the effect of passing lane on percent time-spent-following, fpl ercent time-spent-following including passing lane, PTSFpl Level of Service and Other Performance Measura evel of service including passing lane, LOSpl</pre>	d, Lde speed, FSpl Passing tive le ng, Lde length ing, Ld	Ld g Lar ength h of	- 0.0 ne - - -	mi % mi %
<pre>length of passing lane for average travel speed ength of two-lane highway downstream of effective length of the passing lane for average travel s dj. factor for the effect of passing lane on average speed, fpl verage travel speed including passing lane, ATSpl ercent free flow speed including passing lane, PFP Percent Time-Spent-Following with n cownstream length of two-lane highway within effect of passing lane for percent time-spent-following ength of two-lane highway downstream of effective the passing lane for percent time-spent-following dj. factor for the effect of passing lane on percent time-spent-following, fpl ercent time-spent-following including passing lane, PTSFpl Level of Service and Other Performance Measure</pre>	d, Lde speed, FSpl Passing tive le ng, Lde length ing, Ld	Ld g Lar ength i of l	- 0.0 ne - - -	mi % mi %

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	1527.8
Effective width of outside lane, We	28.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	3.55
Bicycle LOS	D

- 1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific dewngrade segments are treated as level terrain.
- 2. If vi (vd or vo) >= 1,700 pc/h, terminate analysis-the LOS is F.
- 3. For the analysis direction only and for v>200 veh/h.
- 4. For the analysis direction only.
- 5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.
- * These items have been entered or edited to override calculated value

Phone: Fax: E-Mail: _____Directional Two-Lane Highway Segment Analysis______ Analyst DRR Agency/Co. CTG Date Performed 2019-08-06 Analysis Time Period Saturday PM Peak Hour Silverado Trail NB Highway Silverado North of Project From/To Jurisdiction Napa Co Analysis Year 2030 with Project Description Paraduxx Winery _____Input Data_____ Peak hour factor, PHF 0.88 Highway class Class 1 Shoulder width 8.0 ft % Trucks and buses 5 % 12.0ft% Trucks crawling0.01.5miTruck crawl speed0.0Level% Recreational vehicles2 Lane width 0.0 % 0.0 Segment length mi/hr Level Terrain type 8 - mi % No-passing zones 85 - % Access point density 9 Grade: Length 8 Up/down /mi Analysis direction volume, Vd 627 veh/h Opposing direction volume, Vo 1225 veh/h _____Average Travel Speed____ Direction Analysis(d) Opposing (o) PCE for trucks, ET 1.1* 1.0 PCE for RVs, ER 1.0* 1.0 Heavy-vehicle adj. factor,(note-5) fHV 0.995 1.000 1.00 Grade adj. factor, (note-1) fg 1.00 716 pc/h Directional flow rate, (note-2) vi 1392 pc/h Free-Flow Speed from Field Measurement: Field measured speed, (note-3) S FM mi/h Observed total demand, (note-3) V _ veh/h Estimated Free-Flow Speed: Base free-flow speed, (note-3) BFFS 55.0 mi/h Adj. for lane and shoulder width, (note-3) fLS 0.0 mi/h Adj. for access point density,(note-3) fA 2.3 mi/h Free-flow speed, FFSd 52.8 mi/h 0.7 mi/h Adjustment for no-passing zones, fnp Average travel speed, ATSd 35.6 mi/h Percent Free Flow Speed, PFFS 67.6 %

DirectionAnalysis(d)PCE for trucks, ET1.0PCE for RVs, ER1.0	0pj	posing (1.0 1.0	(0)
Heavy-vehicle adjustment factor, fHV 1.000		1.000	
Grade adjustment factor, (note-1) fg 1.00		1.00	(1
Directional flow rate, (note-2) vi 713 pc/h		1392	pc/h
Base percent time-spent-following,(note-4) BPTSFd 72. Adjustment for no-passing zones, fnp 14.			
Percent time-spent-following, PTSFd 77.			
Level of Service and Other Performance	e Measu	res	
Level of service, LOS E			
Jolume to capacity ratio, v/c 0.4	12		
Peak 15-min vehicle-miles of travel, VMT15 265		eh-mi	
Peak-hour vehicle-miles of travel, VMT60 941		eh-mi	
Peak 15-min total travel time, TT15 7.5		eh-h	
Capacity from ATS, CdATS 170		eh/h	
Capacity from PTSF, CdPTSF 170		eh/h	
Directional Capacity 170)0 v	eh/h	
Passing Lane Analysis			
otal length of analysis segment, Lt		1.5	mi
ength of two-lane highway upstream of the passing lar	ne, Lu	-	mi
ength of passing lane including tapers, Lpl		-	mi
verage travel speed, ATSd (from above)		35.6	mi/h
ercent time-spent-following, PTSFd (from above)		77.1	
Level of service, LOSd (from above)		Ε	
Average Travel Speed with Passing	Lane		
Downstream length of two-lane highway within effective	2		
length of passing lane for average travel speed, I		-	mi
length of passing lane for average travel speed, I length of two-lane highway downstream of effective length of the passing lane for average travel spee	lde	-	mi mi
length of passing lane for average travel speed, I bength of two-lane highway downstream of effective length of the passing lane for average travel spee adj. factor for the effect of passing lane	lde	-	
<pre>length of passing lane for average travel speed, I ength of two-lane highway downstream of effective length of the passing lane for average travel spee adj. factor for the effect of passing lane on average speed, fpl</pre>	lde	-	
<pre>length of passing lane for average travel speed, I ength of two-lane highway downstream of effective length of the passing lane for average travel spee adj. factor for the effect of passing lane on average speed, fpl average travel speed including passing lane, ATSpl</pre>	ude ed, Ld	-	mi
<pre>length of passing lane for average travel speed, I ength of two-lane highway downstream of effective length of the passing lane for average travel spee adj. factor for the effect of passing lane on average speed, fpl average travel speed including passing lane, ATSpl</pre>	ude ed, Ld	- - - 0.0	
<pre>length of passing lane for average travel speed, I length of two-lane highway downstream of effective length of the passing lane for average travel spee Adj. factor for the effect of passing lane on average speed, fpl Average travel speed including passing lane, ATSpl</pre>	ude ed, Ld	- - 0.0	mi %
<pre>length of passing lane for average travel speed, I ength of two-lane highway downstream of effective length of the passing lane for average travel speed Adj. factor for the effect of passing lane on average speed, fpl Average travel speed including passing lane, ATSpl Percent free flow speed including passing lane, PFFSpl Percent Time-Spent-Following with Pass Downstream length of two-lane highway within effective</pre>	de ed, Ld sing La e lengtl	- - 0.0 ne	mi %
<pre>length of passing lane for average travel speed, I ength of two-lane highway downstream of effective length of the passing lane for average travel speed adj. factor for the effect of passing lane on average speed, fpl average travel speed including passing lane, ATSpl ercent free flow speed including passing lane, PFFSpl Percent Time-Spent-Following with Pass ownstream length of two-lane highway within effective of passing lane for percent time-spent-following,</pre>	de ed, Ld sing La e lengtl Lde	- - 0.0 ne	mi %
<pre>length of passing lane for average travel speed, I ength of two-lane highway downstream of effective length of the passing lane for average travel speed adj. factor for the effect of passing lane on average speed, fpl average travel speed including passing lane, ATSpl percent free flow speed including passing lane, PFFSpl Percent Time-Spent-Following with Pass oownstream length of two-lane highway within effective of passing lane for percent time-spent-following, ength of two-lane highway downstream of effective ler</pre>	de d, Ld sing La lengtl Lde ngth of	- - 0.0 ne	mi %
<pre>length of passing lane for average travel speed, I ength of two-lane highway downstream of effective length of the passing lane for average travel speed dj. factor for the effect of passing lane on average speed, fpl verage travel speed including passing lane, ATSpl ercent free flow speed including passing lane, PFFSpl Percent Time-Spent-Following with Pass ownstream length of two-lane highway within effective of passing lane for percent time-spent-following, eength of two-lane highway downstream of effective ler the passing lane for percent time-spent-following,</pre>	de d, Ld sing La lengtl Lde ngth of	- - 0.0 ne	mi %
<pre>length of passing lane for average travel speed, I ength of two-lane highway downstream of effective length of the passing lane for average travel speed adj. factor for the effect of passing lane on average speed, fpl average travel speed including passing lane, ATSpl percent free flow speed including passing lane, PFFSpl Percent Time-Spent-Following with Pass oownstream length of two-lane highway within effective of passing lane for percent time-spent-following, ength of two-lane highway downstream of effective ler the passing lane for percent time-spent-following, adj. factor for the effect of passing lane</pre>	de d, Ld sing La lengtl Lde ngth of	- - 0.0 ne	mi %
<pre>length of passing lane for average travel speed, I ength of two-lane highway downstream of effective length of the passing lane for average travel speed adj. factor for the effect of passing lane on average speed, fpl average travel speed including passing lane, ATSpl percent free flow speed including passing lane, PFFSpl Percent Time-Spent-Following with Pass pownstream length of two-lane highway within effective of passing lane for percent time-spent-following, ength of two-lane highway downstream of effective ler the passing lane for percent time-spent-following, dj. factor for the effect of passing lane on percent time-spent-following, fpl</pre>	de d, Ld sing La lengtl Lde ngth of	- - 0.0 ne	mi %
<pre>length of passing lane for average travel speed, I ength of two-lane highway downstream of effective length of the passing lane for average travel speed adj. factor for the effect of passing lane on average speed, fpl average travel speed including passing lane, ATSpl Percent free flow speed including passing lane, PFFSpl Percent Time-Spent-Following with Pass oownstream length of two-lane highway within effective of passing lane for percent time-spent-following, ength of two-lane highway downstream of effective ler the passing lane for percent time-spent-following, dj. factor for the effect of passing lane on percent time-spent-following, fpl percent time-spent-following</pre>	de d, Ld sing La lengtl Lde ngth of	- - 0.0 ne	mi % mi mi
<pre>length of passing lane for average travel speed, I Length of two-lane highway downstream of effective length of the passing lane for average travel speed Adj. factor for the effect of passing lane on average speed, fpl Average travel speed including passing lane, ATSpl Dercent free flow speed including passing lane, PFFSpl Percent Time-Spent-Following with Pass Downstream length of two-lane highway within effective of passing lane for percent time-spent-following, Length of two-lane highway downstream of effective ler the passing lane for percent time-spent-following, dj. factor for the effect of passing lane on percent time-spent-following, fpl Dercent time-spent-following including passing lane, PTSFpl</pre>	de ed, Ld sing La e lengt Lde gth of Ld	- - 0.0 ne - - -	mi % mi %
Length of two-lane highway downstream of effective length of the passing lane for average travel spee Adj. factor for the effect of passing lane on average speed, fpl Average travel speed including passing lane, ATSpl Percent free flow speed including passing lane, PFFSpl Percent Time-Spent-Following with Pass Downstream length of two-lane highway within effective of passing lane for percent time-spent-following, Length of two-lane highway downstream of effective ler the passing lane for percent time-spent-following, Adj. factor for the effect of passing lane on percent time-spent-following, fpl Percent time-spent-following	de ed, Ld sing La e lengt Lde gth of Ld	- - 0.0 ne - - -	mi % mi %
<pre>length of passing lane for average travel speed, I Length of two-lane highway downstream of effective length of the passing lane for average travel speed Adj. factor for the effect of passing lane on average speed, fpl Average travel speed including passing lane, ATSpl Dercent free flow speed including passing lane, PFFSpl Percent Time-Spent-Following with Pass Downstream length of two-lane highway within effective of passing lane for percent time-spent-following, Length of two-lane highway downstream of effective ler the passing lane for percent time-spent-following, dj. factor for the effect of passing lane on percent time-spent-following, fpl Dercent time-spent-following including passing lane, PTSFpl</pre>	de ed, Ld sing La e lengt Lde gth of Ld	- - 0.0 ne - - -	mi % mi %
<pre>length of passing lane for average travel speed, I ength of two-lane highway downstream of effective length of the passing lane for average travel speed adj. factor for the effect of passing lane on average speed, fpl verage travel speed including passing lane, ATSpl ercent free flow speed including passing lane, PFFSpl Percent Time-Spent-Following with Pass ownstream length of two-lane highway within effective of passing lane for percent time-spent-following, ength of two-lane highway downstream of effective ler the passing lane for percent time-spent-following, adj. factor for the effect of passing lane on percent time-spent-following, fpl ercent time-spent-following including passing lane, PTSFpl Level of Service and Other Performance Measures</pre>	de ed, Ld sing Lan e lengtl Lde ngth of Ld with Pa	- - 0.0 ne - - -	mi % mi %

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	712.5
Effective width of outside lane, We	28.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	3.17
Bicycle LOS	С

- 1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific dewngrade segments are treated as level terrain.
- 2. If vi (vd or vo) >= 1,700 pc/h, terminate analysis-the LOS is F.
- 3. For the analysis direction only and for v>200 veh/h.
- 4. For the analysis direction only.
- 5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.
- * These items have been entered or edited to override calculated value

Phone: Fax: E-Mail: _____Directional Two-Lane Highway Segment Analysis______ Analyst DRR Agency/Co. CTG Date Performed 2019-08-06 Analysis Time Period Saturday PM Peak Hour Silverado Trail NB Highway Silverado South of Project From/To Jurisdiction Napa Co Analysis Year 2030 with Project Description Paraduxx Winery _____Input Data_____ Peak hour factor, PHF 0.88 Highway class Class 1 Shoulder width 8.0 ft % Trucks and buses 5 % Lane width 0.0 % Segment length 0.0 mi/hr % Recreational vehicles 2 Terrain type 8 - mi % No-passing zones 50 - % Access point density 12 Grade: Length % Up/down /mi Analysis direction volume, Vd 633 veh/h Opposing direction volume, Vo 1236 veh/h _____Average Travel Speed____ Direction Analysis(d) Opposing (o) PCE for trucks, ET 1.1* 1.0 PCE for RVs, ER 1.0* 1.0 Heavy-vehicle adj. factor,(note-5) fHV 0.995 1.000 Grade adj. factor, (note-1) fg 1.00 1.00 723 pc/h Directional flow rate, (note-2) vi 1405 pc/h Free-Flow Speed from Field Measurement: Field measured speed, (note-3) S FM mi/h Observed total demand, (note-3) V _ veh/h Estimated Free-Flow Speed: Base free-flow speed, (note-3) BFFS 55.0 mi/h Adj. for lane and shoulder width, (note-3) fLS 0.0 mi/h Adj. for access point density,(note-3) fA 3.0 mi/h Free-flow speed, FFSd 52.0 mi/h 0.6 mi/h Adjustment for no-passing zones, fnp Average travel speed, ATSd 34.9 mi/h Percent Free Flow Speed, PFFS 67.2 %

	wing		
Direction Analysis(d)		Opposing	(0)
PCE for trucks, ET 1.0		1.0	
PCE for RVs, ER 1.0		1.0	
Heavy-vehicle adjustment factor, fHV 1.000		1.000	
Grade adjustment factor, (note-1) fg 1.00		1.00	
	oc/h	1405	pc/h
Base percent time-spent-following,(note-4) BPTSFd	-	00	1 - /
Adjustment for no-passing zones, fnp	13.2	-	
Percent time-spent-following, PTSFd	76.8	010	
Level of Service and Other Perform	mance Mea	asures	
Level of service, LOS	Е		
Volume to capacity ratio, v/c	0.42		
Peak 15-min vehicle-miles of travel, VMT15	144	veh-mi	
		ven-mi veh-mi	
eak-hour vehicle-miles of travel, VMT60	506 4.1	ven-mi veh-h	
eak 15-min total travel time, TT15			
Capacity from ATS, CdATS	1700	veh/h	
Capacity from PTSF, CdPTSF	1700	veh/h	
pirectional Capacity	1700	veh/h	
Passing Lane Analysis	S		
otal length of analysis segment, Lt		0.8	mi
ength of two-lane highway upstream of the passing	a lane. I		mi
ength of passing lane including tapers, Lpl	<u>j</u> 10110, 1	_	mi
verage travel speed, ATSd (from above)		34.9	mi/h
Percent time-spent-following, PTSFd (from above)		76.8	111 / 11
Level of service, LOSd (from above)		70.0 E	
Average Travel Speed with Pass	sing Lane	2	
Downstream length of two-lane highway within effe	ctive		
ownstream length of two-lane highway within effect length of passing lane for average travel spec		_	mi
length of passing lane for average travel spee	ed, Lde	_	mi
length of passing lane for average travel spece ength of two-lane highway downstream of effective	ed, Lde e	- .d -	
length of passing lane for average travel spec ength of two-lane highway downstream of effective length of the passing lane for average travel	ed, Lde e	- -d -	mi mi
<pre>length of passing lane for average travel spee ength of two-lane highway downstream of effective length of the passing lane for average travel dj. factor for the effect of passing lane</pre>	ed, Lde e	- Ld -	
<pre>length of passing lane for average travel spee ength of two-lane highway downstream of effective length of the passing lane for average travel adj. factor for the effect of passing lane on average speed, fpl</pre>	ed, Lde e speed, I	- Ld - -	
<pre>length of passing lane for average travel spec ength of two-lane highway downstream of effective length of the passing lane for average travel dj. factor for the effect of passing lane on average speed, fpl average travel speed including passing lane, ATSp</pre>	ed, Lde e speed, I l	-	mi
<pre>length of passing lane for average travel spec ength of two-lane highway downstream of effective length of the passing lane for average travel adj. factor for the effect of passing lane on average speed, fpl average travel speed including passing lane, ATSp</pre>	ed, Lde e speed, I l	- Ld - - - 0.0	
<pre>length of passing lane for average travel spec ength of two-lane highway downstream of effective length of the passing lane for average travel adj. factor for the effect of passing lane on average speed, fpl average travel speed including passing lane, ATSp</pre>	ed, Lde e speed, I l FFSpl	- - 0.0	mi %
<pre>length of passing lane for average travel spee length of two-lane highway downstream of effective length of the passing lane for average travel adj. factor for the effect of passing lane on average speed, fpl average travel speed including passing lane, ATSp Percent free flow speed including passing lane, PI </pre>	ed, Lde e speed, I l FFSpl Passing	- - 0.0 Lane	mi %
<pre>length of passing lane for average travel spee ength of two-lane highway downstream of effective length of the passing lane for average travel adj. factor for the effect of passing lane on average speed, fpl average travel speed including passing lane, ATSp Percent free flow speed including passing lane, PI </pre>	ed, Lde e speed, I l FFSpl Passing ctive ler	- - 0.0 Lane	mi %
<pre>length of passing lane for average travel spee ength of two-lane highway downstream of effective length of the passing lane for average travel adj. factor for the effect of passing lane on average speed, fpl average travel speed including passing lane, ATSp percent free flow speed including passing lane, PP Percent Time-Spent-Following with ownstream length of two-lane highway within effect of passing lane for percent time-spent-follow:</pre>	ed, Lde e speed, I fFSpl Passing ctive ler ing, Lde	- - 0.0 Lane ngth -	mi %
<pre>length of passing lane for average travel spee ength of two-lane highway downstream of effective length of the passing lane for average travel dj. factor for the effect of passing lane on average speed, fpl verage travel speed including passing lane, ATSp ercent free flow speed including passing lane, PP Percent Time-Spent-Following with ownstream length of two-lane highway within effect of passing lane for percent time-spent-follow:</pre>	ed, Lde speed, I FFSpl Passing ctive ler ing, Lde e length	- - 0.0 Lane ngth - of	mi %
<pre>length of passing lane for average travel spee ength of two-lane highway downstream of effective length of the passing lane for average travel dj. factor for the effect of passing lane on average speed, fpl verage travel speed including passing lane, ATSp ercent free flow speed including passing lane, PP Percent Time-Spent-Following with of passing lane for percent time-spent-follow: ength of two-lane highway downstream of effective the passing lane for percent time-spent-follow:</pre>	ed, Lde speed, I FFSpl Passing ctive ler ing, Lde e length	- - 0.0 Lane ngth - of	mi %
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<pre>length of passing lane for average travel spee ength of two-lane highway downstream of effective length of the passing lane for average travel dj. factor for the effect of passing lane on average speed, fpl verage travel speed including passing lane, ATSp ercent free flow speed including passing lane, PI </pre>	ed, Lde speed, I FFSpl Passing ctive ler ing, Lde e length	- - 0.0 Lane ngth - of	mi %
<pre>length of passing lane for average travel spee ength of two-lane highway downstream of effective length of the passing lane for average travel adj. factor for the effect of passing lane on average speed, fpl average travel speed including passing lane, ATSp ercent free flow speed including passing lane, PP Percent Time-Spent-Following with pownstream length of two-lane highway within effect of passing lane for percent time-spent-follow ength of two-lane highway downstream of effective the passing lane for percent time-spent-follow dj. factor for the effect of passing lane on percent time-spent-following, fpl ercent time-spent-following</pre>	ed, Lde speed, I FFSpl Passing ctive ler ing, Lde e length wing, Ld	- - 0.0 Lane ngth - of - - -	mi % mi %
<pre>length of passing lane for average travel spee Length of two-lane highway downstream of effective length of the passing lane for average travel Adj. factor for the effect of passing lane on average speed, fpl Average travel speed including passing lane, ATSp Percent free flow speed including passing lane, PP Percent Time-Spent-Following with Downstream length of two-lane highway within effect of passing lane for percent time-spent-follows Length of two-lane highway downstream of effective the passing lane for percent time-spent-follows dj. factor for the effect of passing lane on percent time-spent-following, fpl Percent time-spent-following including passing lane, PTSFpl Level of Service and Other Performance Measure Description of Service and</pre>	ed, Lde e speed, I FFSpl Passing ctive ler ing, Lde e length wing, Ld	- - 0.0 Lane ngth - of - - -	mi % mi %
<pre>length of passing lane for average travel spee length of two-lane highway downstream of effective length of the passing lane for average travel adj. factor for the effect of passing lane on average speed, fpl average travel speed including passing lane, ATSp Dercent free flow speed including passing lane, PP Percent Time-Spent-Following with Downstream length of two-lane highway within effect of passing lane for percent time-spent-follows Length of two-lane highway downstream of effective the passing lane for percent time-spent-follows adj. factor for the effect of passing lane on percent time-spent-following, fpl Dercent time-spent-following including passing lane, PTSFpl Level of Service and Other Performance Measure Level of service including passing lane, LOSpl</pre>	ed, Lde speed, I FFSpl Passing ctive ler ing, Lde e length wing, Ld	- 0.0 Lane of - - - Passing	mi % mi %
<pre>length of passing lane for average travel spee ength of two-lane highway downstream of effective length of the passing lane for average travel dj. factor for the effect of passing lane on average speed, fpl verage travel speed including passing lane, ATSp ercent free flow speed including passing lane, PP Percent Time-Spent-Following with pownstream length of two-lane highway within effect of passing lane for percent time-spent-follow: ength of two-lane highway downstream of effective the passing lane for percent time-spent-follow: dj. factor for the effect of passing lane on percent time-spent-following, fpl ercent time-spent-following including passing lane, PTSFpl Level of Service and Other Performance Measure</pre>	ed, Lde e speed, I FFSpl Passing ctive ler ing, Lde e length wing, Ld	- - 0.0 Lane ngth - of - - -	mi % mi %

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	719.3
Effective width of outside lane, We	28.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	3.17
Bicycle LOS	С

- 1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific dewngrade segments are treated as level terrain.
- 2. If vi (vd or vo) >= 1,700 pc/h, terminate analysis-the LOS is F.
- 3. For the analysis direction only and for v>200 veh/h.
- 4. For the analysis direction only.
- 5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.
- * These items have been entered or edited to override calculated value

Phone: Fax: E-Mail: _____Directional Two-Lane Highway Segment Analysis______ Analyst DRR Agency/Co. CTG Date Performed2019-08-06Analysis Time PeriodSaturday PM Peak Hour Silverado Trail SB Highway Silverado North of Project From/To Jurisdiction Napa Co Analysis Year 2030 with Project Description Paraduxx Winery _____Input Data_____ Peak hour factor, PHF 0.88 Highway class Class 1 Shoulder width 8.0 ft % Trucks and buses 5 % 12.0ft% Trucks crawling1.5miTruck crawl speedLevel% Recreational vehi 0.0 Lane width % 0.0 Segment length mi/hr Level % % Recreational vehicles 2 Terrain type - mi % No-passing zones 70 - % Access point density 9 Grade: Length % Up/down /mi Analysis direction volume, Vd 1225 veh/h Opposing direction volume, Vo 627 veh/h _____Average Travel Speed____ Direction Opposing (o) Analysis(d) PCE for trucks, ET 1.1* 1.1 PCE for RVs, ER 1.0* 1.0 Heavy-vehicle adj. factor,(note-5) fHV 0.995 0.995 Grade adj. factor,(note-1) fg 1.00 1.00 1399 pc/h Directional flow rate, (note-2) vi 716 pc/h Free-Flow Speed from Field Measurement: Field measured speed, (note-3) S FM mi/h Observed total demand, (note-3) V _ veh/h Estimated Free-Flow Speed: Base free-flow speed, (note-3) BFFS 55.0 mi/h Adj. for lane and shoulder width, (note-3) fLS 0.0 mi/h Adj. for access point density,(note-3) fA 2.3 mi/h Free-flow speed, FFSd 52.8 mi/h mi/h Adjustment for no-passing zones, fnp 1.3 Average travel speed, ATSd 35.0 mi/h Percent Free Flow Speed, PFFS 66.4 %

Direction Analysis(d)		Opposing	(0)
PCE for trucks, ET 1.0		1.0	(-)
PCE for RVs, ER 1.0		1.0	
Leavy-vehicle adjustment factor, fHV 1.000		1.000	0
arade adjustment factor, (note-1) fg 1.00		1.00	•
	/h	713	pc/h
ase percent time-spent-following,(note-4) BPTSFd		00	F. 6.7
	14.3	•	
		0/0	
Level of Service and Other Performa	nce Mea	sures	
	-		
•	E		
	0.82		
	522	veh-mi	
	1838	veh-mi	
	14.9	veh-h	
	1700	veh/h	
	1700	veh/h	
Directional Capacity	1700	veh/h	
Passing Lane Analysis_			
otal length of analysis segment, Lt		1.5	mi
ength of two-lane highway upstream of the passing	lane, L		mi
ength of passing lane including tapers, Lpl	, _	_	mi
verage travel speed, ATSd (from above)		35.0	mi/h
Percent time-spent-following, PTSFd (from above)		94.0	
evel of service, LOSd (from above)		51.0 E	
		1	
Average Travel Speed with Passi	ng Lane		
Oownstream length of two-lane highway within effect	ive		
	- • •		
length of passing lane for average travel speed		-	mi
		-	mi
ength of two-lane highway downstream of effective	, Lde	- d -	mi mi
ength of two-lane highway downstream of effective length of the passing lane for average travel s	, Lde	- d -	
ength of two-lane highway downstream of effective length of the passing lane for average travel s dj. factor for the effect of passing lane	, Lde	- d - -	
<pre>ength of two-lane highway downstream of effective length of the passing lane for average travel s dj. factor for the effect of passing lane on average speed, fpl</pre>	, Lde	- d - -	
<pre>ength of two-lane highway downstream of effective length of the passing lane for average travel s dj. factor for the effect of passing lane on average speed, fpl verage travel speed including passing lane, ATSpl</pre>	, Lde peed, L	- d - - 0.0	
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ength of two-lane highway downstream of effective length of the passing lane for average travel s dj. factor for the effect of passing lane	, Lde peed, Lo Spl	- - 0.0	mi %
ength of two-lane highway downstream of effective length of the passing lane for average travel s adj. factor for the effect of passing lane on average speed, fpl average travel speed including passing lane, ATSpl percent free flow speed including passing lane, PFF	, Lde peed, L Spl assing I	- 0.0 Lane	mi %
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<pre>ength of two-lane highway downstream of effective length of the passing lane for average travel s dj. factor for the effect of passing lane on average speed, fpl verage travel speed including passing lane, ATSpl ercent free flow speed including passing lane, PFF Percent Time-Spent-Following with P ownstream length of two-lane highway within effect of passing lane for percent time-spent-followin</pre>	, Lde peed, L Spl assing : ive len g, Lde	- 0.0 Lane gth -	mi %
<pre>ength of two-lane highway downstream of effective length of the passing lane for average travel s dj. factor for the effect of passing lane on average speed, fpl verage travel speed including passing lane, ATSpl ercent free flow speed including passing lane, PFF Percent Time-Spent-Following with P ownstream length of two-lane highway within effect of passing lane for percent time-spent-followin</pre>	, Lde peed, L Spl assing : ive len g, Lde length	- 0.0 Lane gth -	mi %
<pre>ength of two-lane highway downstream of effective length of the passing lane for average travel s dj. factor for the effect of passing lane on average speed, fpl verage travel speed including passing lane, ATSpl ercent free flow speed including passing lane, PFF Percent Time-Spent-Following with P ownstream length of two-lane highway within effect of passing lane for percent time-spent-followin ength of two-lane highway downstream of effective the passing lane for percent time-spent-followi</pre>	, Lde peed, L Spl assing : ive len g, Lde length	- 0.0 Lane gth -	mi %
<pre>ength of two-lane highway downstream of effective length of the passing lane for average travel s dj. factor for the effect of passing lane on average speed, fpl verage travel speed including passing lane, ATSpl ercent free flow speed including passing lane, PFF </pre>	, Lde peed, L Spl assing : ive len g, Lde length	- 0.0 Lane gth -	mi %
<pre>ength of two-lane highway downstream of effective length of the passing lane for average travel s dj. factor for the effect of passing lane on average speed, fpl verage travel speed including passing lane, ATSpl ercent free flow speed including passing lane, PFF Percent Time-Spent-Following with P ownstream length of two-lane highway within effect of passing lane for percent time-spent-followin ength of two-lane highway downstream of effective the passing lane for percent time-spent-followid dj. factor for the effect of passing lane on percent time-spent-following, fpl</pre>	, Lde peed, L Spl assing : ive len g, Lde length	- 0.0 Lane gth -	mi %
<pre>ength of two-lane highway downstream of effective length of the passing lane for average travel s dj. factor for the effect of passing lane on average speed, fpl verage travel speed including passing lane, ATSpl ercent free flow speed including passing lane, PFF Percent Time-Spent-Following with P ownstream length of two-lane highway within effect of passing lane for percent time-spent-followin ength of two-lane highway downstream of effective the passing lane for percent time-spent-followid dj. factor for the effect of passing lane on percent time-spent-following, fpl</pre>	, Lde peed, L Spl assing : ive len g, Lde length	- 0.0 Lane gth -	mi %
<pre>ength of two-lane highway downstream of effective length of the passing lane for average travel s dj. factor for the effect of passing lane on average speed, fpl verage travel speed including passing lane, ATSpl ercent free flow speed including passing lane, PFF Percent Time-Spent-Following with P ownstream length of two-lane highway within effect of passing lane for percent time-spent-followin ength of two-lane highway downstream of effective the passing lane for percent time-spent-followi dj. factor for the effect of passing lane on percent time-spent-following, fpl ercent time-spent-following</pre>	, Lde peed, L Spl assing ive len g, Lde length ng, Ld	- 0.0 Lane gth - of - -	mi % mi %
<pre>ength of two-lane highway downstream of effective length of the passing lane for average travel s dj. factor for the effect of passing lane on average speed, fpl verage travel speed including passing lane, ATSpl ercent free flow speed including passing lane, PFF Percent Time-Spent-Following with P pownstream length of two-lane highway within effect of passing lane for percent time-spent-followin ength of two-lane highway downstream of effective the passing lane for percent time-spent-followin dj. factor for the effect of passing lane on percent time-spent-following, fpl ercent time-spent-following including passing lane, PTSFpl Level of Service and Other Performance Measur</pre>	, Lde peed, Ld Spl assing : ive length length ng, Lde length res with	- 0.0 Lane gth - of - -	mi % mi %
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<pre>ength of two-lane highway downstream of effective length of the passing lane for average travel s dj. factor for the effect of passing lane on average speed, fpl verage travel speed including passing lane, ATSpl ercent free flow speed including passing lane, PFF Percent Time-Spent-Following with P ownstream length of two-lane highway within effect of passing lane for percent time-spent-followin ength of two-lane highway downstream of effective the passing lane for percent time-spent-followid dj. factor for the effect of passing lane on percent time-spent-following, fpl ercent time-spent-following including passing lane, PTSFpl Level of Service and Other Performance Measur</pre>	, Lde peed, Ld Spl assing : ive length length ng, Lde length res with	- 0.0 Lane gth - of - -	mi % mi %

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	1392.0
Effective width of outside lane, We	28.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	3.51
Bicycle LOS	D

- 1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific dewngrade segments are treated as level terrain.
- 2. If vi (vd or vo) >= 1,700 pc/h, terminate analysis-the LOS is F.
- 3. For the analysis direction only and for v>200 veh/h.
- 4. For the analysis direction only.
- 5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.
- * These items have been entered or edited to override calculated value

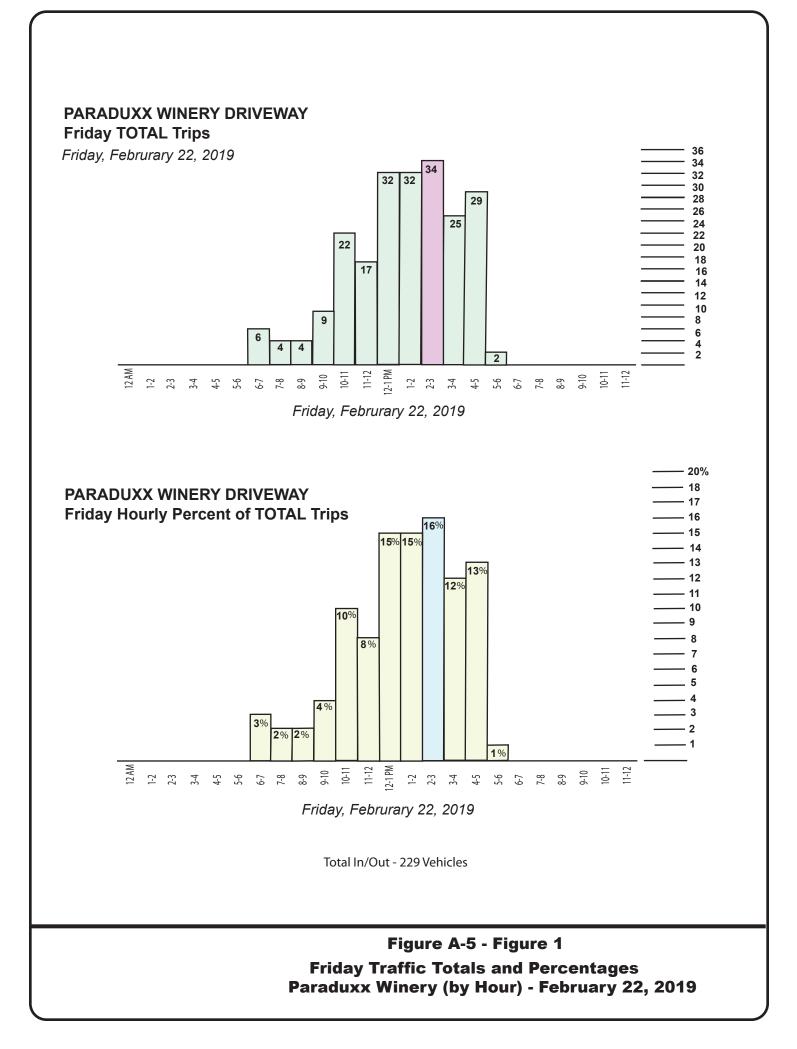
Phone: Fax: E-Mail: _____Directional Two-Lane Highway Segment Analysis______ Analyst DRR Agency/Co. CTG Date Performed 2019-08-06 Analysis Time Period Saturday PM Peak Hour Silverado Trail SB Highway Silverado South of Project From/To Jurisdiction Napa Co Analysis Year 2030 with Project Description Paraduxx Winery _____Input Data_____ Peak hour factor, PHF 0.88 Highway class Class 1 Shoulder width 8.0 ft % Trucks and buses 5 % 8.0 10 12.0 ft % Trucks crawleng 0.8 mi Truck crawl speed Recreational vehi cripg zones Lane width 0.0 % Segment length 0.0 mi/hr % Recreational vehicles 2 Terrain type % No-passing zones 100 8 Grade: Length – mi 8 Access point density 12 00 Up/down _ /mi Analysis direction volume, Vd 1236 veh/h Opposing direction volume, Vo 633 veh/h _____Average Travel Speed____ Direction Opposing (o) Analysis(d) PCE for trucks, ET 1.1* 1.1 PCE for RVs, ER 1.0* 1.0 Heavy-vehicle adj. factor,(note-5) fHV 0.995 0.995 Grade adj. factor,(note-1) fg 1.00 1.00 1412 pc/h Directional flow rate, (note-2) vi 723 pc/h Free-Flow Speed from Field Measurement: Field measured speed, (note-3) S FM mi/h Observed total demand, (note-3) V _ veh/h Estimated Free-Flow Speed: Base free-flow speed, (note-3) BFFS 55.0 mi/h Adj. for lane and shoulder width, (note-3) fLS 0.0 mi/h Adj. for access point density,(note-3) fA 3.0 mi/h Free-flow speed, FFSd 52.0 mi/h mi/h Adjustment for no-passing zones, fnp 1.6 Average travel speed, ATSd 33.9 mi/h Percent Free Flow Speed, PFFS 65.1 %

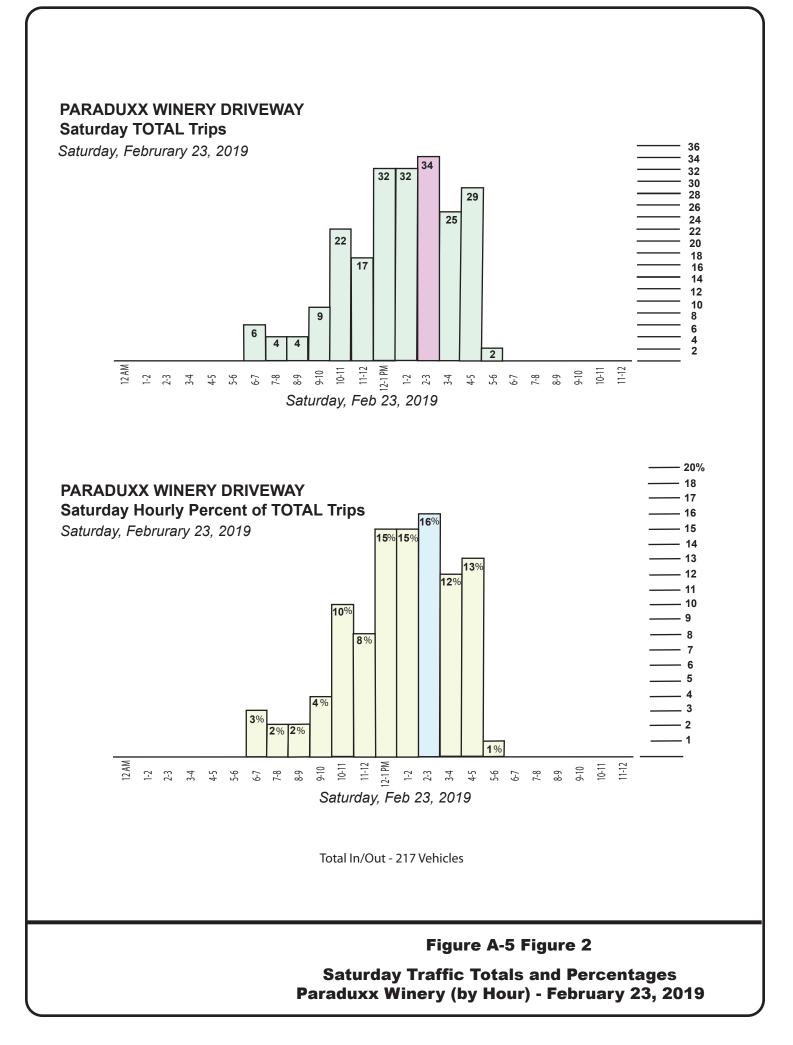
	PCE for trucks, ET 1.0		~		
CCE for trucks, ET 1.0 1.0 Teade adjustment factor, fHV 1.000 1.00 Trade adjustment factor, (note-1) fg 1.00 1.00 Directional flow rate, (note-2) vi 1405 pc/h 719 pc/h Hase percent time-spent-following, (note-4) BPTSFd 84.6 % Directional flow rate, (note-2) vi 1405 pc/h 719 pc/h Hase percent time-spent-following, PTSFd 94.5 %	PCE for trucks, ET 1.0		ומט	posina	(0)
CCE FOR XVS, FR 1.0 1.0 iscavy-vehicle adjustment factor, fHV 1.00 1.00 irrectional flow rate.(note-2) vi 1405 pc/h 719 pc/h iscare percent time-spent-following,(note-4) BPTSFd 84.6 \$ idjustment for no-passing zones, fnp 15.0 *	•		011		()
<pre>deavy-vehicle adjustment factor, fHV 1.000 1.000 prace adjustment factor, (note-1) fg 1.00 1.00 prectional flow rate, (note-2) vi 1405 pc/h 719 pc/h aae percent time-spent-following, (note-4) BPTSFd 84.6 \$ djustment for no-passing zones, fnp 94.5 \$Level of Service and Other Performance Measures evel of service, LOS ELevel of travel, VMT15 281 veh-mi reak 15-min vehicle-miles of travel, VMT15 281 veh-mi reak 15-min total travel time, TT15 8.3 veh-n lapacity from PTSF, CdPTSF 17000 veh/h liprectional Capacity TST 1700 veh/hPassing Lane Analysis Total length of analysis gegment, Lt 0.8 mi iength of passing lane including tapers, Lpl - mi verage travel speed, ATSd (from above) 94.5 evel of service, LOSd (from above) 94.5 evel of service, LOSd (from above) 94.5 evel of service, LOSd (from above) EAverage Travel Speed with Passing Lane average travel speed, Ld - mi length of two-lane highway within effective length of wasing lane for percent time-spent-following, Ld - mi di, factor for the effect of passing lane, ATSpl - everent free flow speed including passing lane, ATSpl - everent time-spent-following, fpl - everent time-</pre>	PCE IOT RVS, ER I.U				
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<pre>birectional flow rate,(note-2) vi 1405 pc/h 719 pc/h asse percent time-spent-following,(note-4) BPTSFd 84.6 % digustment for no-passing zones, fnp 15.0 'ercent time-spent-following, PTSPd 94.5 %</pre>					
<pre>hase percent time-spent-following, (note-4) BPTSFd 84.6 % digustment for no-passing zonces, fnp 15.0 erecent time-spent-following, PTSPd 94.5 %Level of Service and Other Performance Measures evel of service, LOS E folume to capacity ratio, v/c 0.83 eak 15-min total travel time, TT15 8.3 veh-h apacity from ATS, CdATS 1700 veh/h apacity for passing lane including tapers, Lpl - mi ength of two-lane highway upstream of the passing lane, Lu - mi ength of passing lane including tapers, Lpl - mi ength of passing lane including tapers, Lpl - mi ength of passing lane including tapers, Lpl - mi ength of passing lane including tapers, Lpl - mi ength of passing lane for average travel speed, Ld - mi ength of passing lane for average travel speed, Ld - mi ength of passing lane for average travel speed, Ld - mi ength of two-lane highway within effective length of two-lane highway downstream of effective length of two-lane highway downstream of effective length of two-lane highway downstream of effective length of of passing lane for average travel speed, Ld - mi ength of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld - mi ength of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld - mi ength of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld - mi ength of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld - mi ength of two-lane highway downstream of effective length of the passing lane for percent time-spent-f</pre>		c/h			pc/h
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Tapacity from PTSF, CdPTSF 1700 veh/h Directional Capacity 1700 veh/h	eak 15-min total travel time, TT15	8.3	v	eh-h	
Directional Capacity 1700 veh/h	apacity from ATS, CdATS	1700	v	eh/h	
Directional Capacity 1700 veh/h	Capacity from PTSF, CdPTSF	1700	v	eh/h	
Cotal length of analysis segment, Lt 0.8 mi ength of two-lane highway upstream of the passing lane, Lu - mi werage travel speed, ATSd (from above) 33.9 mi/h becrent time-spent-following, PTSFd (from above) 94.5 excel of service, LOSd (from above) E		1700	v	eh/h	
Arength of two-lane highway upstream of the passing lane, Lu - mi ength of passing lane including tapers, Lpl - mi werage travel speed, ATSd (from above) 33.9 mi/h Percent time-spent-following, PTSFd (from above) 94.5	Passing Lane Analysis				
<pre>dength of two-lane highway upstream of the passing lane, Lu - mi mength of passing lane including tapers, Lpl - mi werage travel speed, ATSd (from above) 33.9 mi/h bercent time-spent-following, PTSFd (from above) 94.5 mevel of service, LOSd (from above) E </pre>					
ength of passing lane including tapers, Lpl - mi werage travel speed, ATSG (from above) 33.9 mi/h Percent time-spent-following, PTSFd (from above) 94.5 evel of service, LOSG (from above) E		_			
average travel speed, ATSd (from above) 33.9 mi/h ercent time-spent-following, PTSFd (from above) 94.5 evel of service, LOSd (from above) E		lane,	Lu		
ercent time-spent-following, PTSFd (from above) 94.5 evel of service, LOSd (from above) E					
Average Travel Speed with Passing Lane Average Travel Speed with Passing Lane bownstream length of two-lane highway within effective length of passing lane for average travel speed, Lde mi dength of two-lane highway downstream of effective mi length of the passing lane for average travel speed, Lde mi output of the passing lane for average travel speed, Ld mi dig. factor for the effect of passing lane - on average speed, fpl - on average travel speed including passing lane, ATSpl - erecent free flow speed including passing lane, PFFSpl 0.0 of passing lane for percent Time-Spent-Following with Passing Lane - ownstream length of two-lane highway within effective length - of passing lane for percent time-spent-following, Lde - weight of two-lane highway downstream of effective length - of passing lane for percent time-spent-following, Ld - weight of two-lane highway downstream of effective length - of passing lane, for percent time-spent-following, Ld - weight of two-lane highway downstream of effective length - of passing lane, PTSFpl - weight of tweight of percent				33.9	mi/h
Average Travel Speed with Passing Lane				94.5	
Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde - mi ength of the passing lane for average travel speed, Ld - mi adj. factor for the effect of passing lane on average speed, fpl	Level of service, LOSd (from above)			Е	
<pre>length of passing lane for average travel speed, Lde - mi ength of two-lane highway downstream of effective length of the passing lane for average travel speed, Ld - mi adj. factor for the effect of passing lane on average speed, fpl</pre>	Average Travel Speed with Pass	ing La	ne		
<pre>length of passing lane for average travel speed, Lde - mi ength of two-lane highway downstream of effective length of the passing lane for average travel speed, Ld - mi adj. factor for the effect of passing lane on average speed, fpl</pre>	Cownstream length of two-lane highway within effec	tive			
<pre>dength of two-lane highway downstream of effective length of the passing lane for average travel speed, Ld - mi ddj. factor for the effect of passing lane on average speed, fpl werage travel speed including passing lane, ATSpl - Percent free flow speed including passing lane, PFFSpl 0.0 % Percent Time-Spent-Following with Passing Lane oownstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde - mi ength of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld - mi ddj. factor for the effect of passing lane on percent time-spent-following, Ld - mi encluding passing lane, PTSFpl - % Level of Service and Other Performance Measures with Passing Lane evel of service including passing lane, LOSpl E Peak 15-min total travel time, TT15 - veh-h</pre>				_	mi
<pre>length of the passing lane for average travel speed, Ld - mi adj. factor for the effect of passing lane on average speed, fpl - average travel speed including passing lane, ATSpl - ercent free flow speed including passing lane, PFFSpl 0.0 % Percent Time-Spent-Following with Passing Lane oownstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde - mi the passing lane for percent time-spent-following, Ld - mi ddj. factor for the effect of passing lane on percent time-spent-following, fpl - mi ercent time-spent-following fpl - mi bercent time-spent-following fpl - % Level of Service and Other Performance Measures with Passing Lane evel of service including passing lane, LOSpl E Peak 15-min total travel time, TT15 - veh-h</pre>				-	111 1
<pre>adj. factor for the effect of passing lane on average speed, fpl - verage travel speed including passing lane, ATSpl - Percent free flow speed including passing lane, PFFSpl 0.0 % Percent Time-Spent-Following with Passing Lane oownstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde - mi ength of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld - mi adj. factor for the effect of passing lane on percent time-spent-following, fpl - Percent time-spent-following including passing lane, PTSFpl - % Level of Service and Other Performance Measures with Passing Lane percent for the including passing lane, LOSpl E Peak 15-min total travel time, TT15 - veh-h</pre>			та		
on average speed, fpl - average travel speed including passing lane, ATSpl - Percent free flow speed including passing lane, PFFSpl 0.0 % Percent Time-Spent-Following with Passing Lane bownstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Ld - mi ength of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld - mi adj. factor for the effect of passing lane on percent time-spent-following, fpl - Percent time-spent-following fpl - Percent time-spent-following including passing lane, PTSFpl - % Level of Service and Other Performance Measures with Passing Lane evel of service including passing lane, LOSpl E Peak 15-min total travel time, TT15 - veh-h		speed,	Цα	-	[[]]]
<pre>verage travel speed including passing lane, ATSpl - vercent free flow speed including passing lane, PFFSpl 0.0 %Percent Time-Spent-Following with Passing Lane oownstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde - mi dength of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld - mi ddj. factor for the effect of passing lane on percent time-spent-following, fpl - vercent time-spent-following including passing lane, PTSFpl - % Level of Service and Other Performance Measures with Passing Lane vercent time-total travel time, TT15 - veh-h </pre>					
Percent free flow speed including passing lane, PFFSpl 0.0 % Percent Time-Spent-Following with Passing Lane pownstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde - mi ength of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld - mi dj. factor for the effect of passing lane on percent time-spent-following, fpl - Percent time-spent-following including passing lane, PTSFpl - % Level of Service and Other Performance Measures with Passing Lane evel of service including passing lane, LOSpl E peak 15-min total travel time, TT15 - veh-h				-	
Percent Time-Spent-Following with Passing Lane				-	0
<pre>Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde - mi ength of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld - mi adj. factor for the effect of passing lane on percent time-spent-following, fpl - Percent time-spent-following including passing lane, PTSFpl - % Level of Service and Other Performance Measures with Passing Lane evel of service including passing lane, LOSpl E peak 15-min total travel time, TT15 - veh-h</pre>	ercent free flow speed including passing lane, PF	FSpl		0.0	00
of passing lane for percent time-spent-following, Lde - mi dength of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld - mi adj. factor for the effect of passing lane on percent time-spent-following, fpl - Percent time-spent-following including passing lane, PTSFpl - % Level of Service and Other Performance Measures with Passing Lane evel of service including passing lane, LOSpl E Peak 15-min total travel time, TT15 - veh-h	Percent Time-Spent-Following with	Passing	g Lai	ne	
of passing lane for percent time-spent-following, Lde - mi dength of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld - mi adj. factor for the effect of passing lane on percent time-spent-following, fpl - Percent time-spent-following including passing lane, PTSFpl - % Level of Service and Other Performance Measures with Passing Lane evel of service including passing lane, LOSpl E Peak 15-min total travel time, TT15 - veh-h	ownstream length of two-lane highway within effec	tive l	enati	h	
<pre>dength of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld - mi adj. factor for the effect of passing lane on percent time-spent-following, fpl - Percent time-spent-following including passing lane, PTSFpl - % Level of Service and Other Performance Measures with Passing Lane evel of service including passing lane, LOSpl E Peak 15-min total travel time, TT15 - veh-h</pre>			-	·· _	mi
<pre>the passing lane for percent time-spent-following, Ld - mi adj. factor for the effect of passing lane on percent time-spent-following, fpl - Percent time-spent-following including passing lane, PTSFpl - %Level of Service and Other Performance Measures with Passing Lane evel of service including passing lane, LOSpl E Peak 15-min total travel time, TT15 - veh-h</pre>					
<pre>Adj. factor for the effect of passing lane on percent time-spent-following, fpl - Percent time-spent-following including passing lane, PTSFpl - % Level of Service and Other Performance Measures with Passing Lane evel of service including passing lane, LOSpl E Peak 15-min total travel time, TT15 - veh-h</pre>		-		_	mi
on percent time-spent-following, fpl - Percent time-spent-following including passing lane, PTSFpl - % Level of Service and Other Performance Measures with Passing Lane evel of service including passing lane, LOSpl E Peak 15-min total travel time, TT15 - veh-h		тид, ц	J	-	ш⊥
<pre>vercent time-spent-following including passing lane, PTSFpl - % Level of Service and Other Performance Measures with Passing Lane evel of service including passing lane, LOSpl E peak 15-min total travel time, TT15 - veh-h</pre>					
including passing lane, PTSFpl - % Level of Service and Other Performance Measures with Passing Lane evel of service including passing lane, LOSpl E peak 15-min total travel time, TT15 - veh-h				-	
Level of Service and Other Performance Measures with Passing Lane evel of service including passing lane, LOSpl E Peak 15-min total travel time, TT15 - veh-h					0.
evel of service including passing lane, LOSpl E Peak 15-min total travel time, TT15 - veh-h	Including passing lane, PTSFpl			-	6
Peak 15-min total travel time, TT15 - veh-h	Level of Service and Other Performance Measu	res wi	th Pa	assing	Lane
Peak 15-min total travel time, TT15 - veh-h	level of service including passing lane, LOSpl	Е			
		-	v	eh-h	

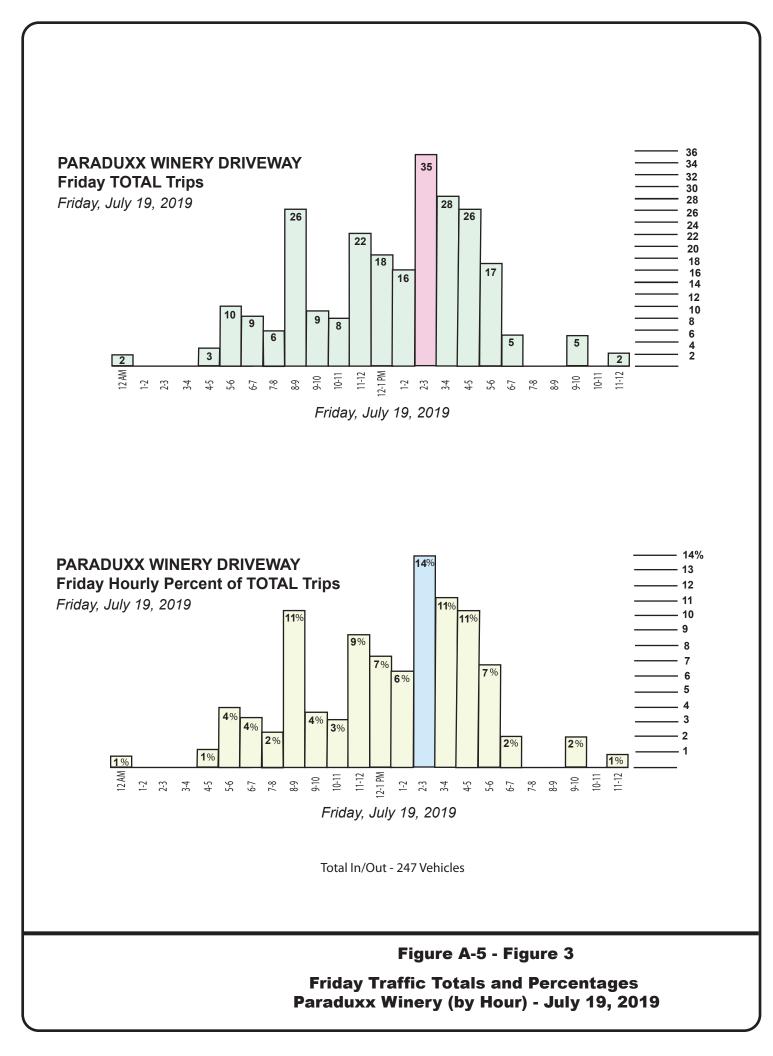
Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	1404.5
Effective width of outside lane, We	28.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	3.51
Bicycle LOS	D

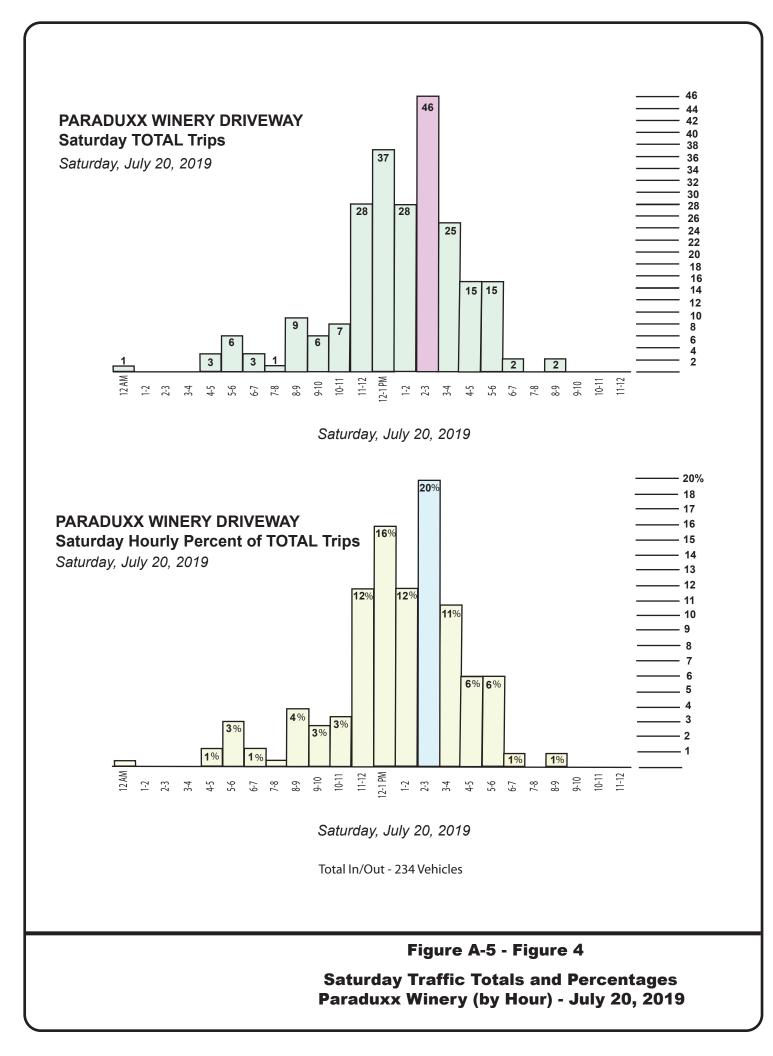
- 1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific dewngrade segments are treated as level terrain.
- 2. If vi (vd or vo) >= 1,700 pc/h, terminate analysis-the LOS is F.
- 3. For the analysis direction only and for v>200 veh/h.
- 4. For the analysis direction only.
- 5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.
- * These items have been entered or edited to override calculated value

Appendix 5









Appendix 6

PARADUXX WINERY – EXISTING CONDITIONS

Winery Traffic Information / Trip Generation Sheet

Traffic during a Typical Weekday

Number of FT employees: <u>31</u> x 3.05 one-way trips per employee	=	<u>95</u> daily trips.
Number of PT employees: <u>5</u> x 1.90 one-way trips per employee	=	<u>10</u> daily trips.
Average number of weekday visitors: <u>40</u> / 2.6 visitors per vehicle x 2 one-way trips	=	32 daily trips.
Gallons of production: 200,000 1,000 x .009 truck trips daily ³ x 2 one-way trips	=	4 daily trips.
Total	=	141 daily trips.
Number of total weekday trips X .38	=	54 PM peak trips.
Traffic during a Typical Saturday		
Number of FT employees (on Saturdays): <u>20</u> x 3.05 one-way trips per employee	=	60 daily trips.
Number of PT employees (on Saturdays): <u>5</u> x 1.90 one-way trips per employee	=	<u>10</u> daily trips.
Average number of Saturday visitors: <u>50</u> / 2.8 visitors per vehicle x 2 one-way trips	=	36 daily trips.
Total	=	106 daily trips.
Number of total Saturday trips X .57	=	60 PM peak trips.
Traffic during a Crush Saturday		
Traffic during a Crush Saturday Number of FT employees (during crush): <u>25</u> x 3.05 one-way trips per employee	=	76daily trips.
	=	<u>76</u> daily trips. <u>10</u> daily trips.
Number of FT employees (during crush): <u>25</u> x 3.05 one-way trips per employee		• •
Number of FT employees (during crush): 25 x 3.05 one-way trips per employee Number of PT employees (during crush): 5 x 1.90 one-way trips per employee	=	<u>10</u> daily trips.
Number of FT employees (during crush): 25 x 3.05 one-way trips per employee Number of PT employees (during crush): 5 x 1.90 one-way trips per employee Average number of Saturday visitors: 50 / 2.8 visitors per vehicle x 2 one-way trips	=	<u> 10 </u> daily trips. <u> 36 </u> daily trips.
Number of FT employees (during crush): 25 x 3.05 one-way trips per employee Number of PT employees (during crush): 5 x 1.90 one-way trips per employee Average number of Saturday visitors: 50 / 2.8 visitors per vehicle x 2 one-way trips Gallons of production: $200,000$ / 1,000 x .009 truck trips daily x 2 one-way trips	=	10daily trips.36daily trips.4daily trips.
Number of FT employees (during crush): 25×3.05 one-way trips per employee Number of PT employees (during crush): 5×1.90 one-way trips per employee Average number of Saturday visitors: $50 / 2.8$ visitors per vehicle x 2 one-way trips Gallons of production: $200,000 / 1,000 \times .009$ truck trips daily x 2 one-way trips Avg. annual tons of grape on-haul: $30 \times .11$ truck trips daily ⁴ x 2 one-way trips	=	10daily trips.36daily trips.4daily trips.8daily trips
Number of FT employees (during crush): <u>25</u> x 3.05 one-way trips per employee Number of PT employees (during crush): <u>5</u> x 1.90 one-way trips per employee Average number of Saturday visitors: <u>50</u> / 2.8 visitors per vehicle x 2 one-way trips Gallons of production: <u>200,000</u> / 1,000 x .009 truck trips daily x 2 one-way trips Avg. annual tons of grape on-haul: <u>30</u> x.11 truck trips daily ⁴ x 2 one-way trips Total	= = = =	10daily trips.36daily trips.4daily trips.8daily trips134daily trips.
Number of FT employees (during crush): <u>25</u> x 3.05 one-way trips per employee Number of PT employees (during crush): <u>5</u> x 1.90 one-way trips per employee Average number of Saturday visitors: <u>50</u> / 2.8 visitors per vehicle x 2 one-way trips Gallons of production: <u>200,000</u> / 1,000 x .009 truck trips daily x 2 one-way trips Avg. annual tons of grape on-haul: <u>30</u> x.11 truck trips daily ⁴ x 2 one-way trips Total Number of total Saturday trips X .57	= = = =	10daily trips.36daily trips.4daily trips.8daily trips134daily trips.
Number of FT employees (during crush): <u>25</u> x 3.05 one-way trips per employee Number of PT employees (during crush): <u>5</u> x 1.90 one-way trips per employee Average number of Saturday visitors: <u>50</u> / 2.8 visitors per vehicle x 2 one-way trips Gallons of production: <u>200,000</u> / 1,000 x .009 truck trips daily x 2 one-way trips Avg. annual tons of grape on-haul: <u>30</u> x.11 truck trips daily ⁴ x 2 one-way trips Total Number of total Saturday trips X .57 Largest Marketing Event – Additional Traffic	=	10daily trips.36daily trips.4daily trips.8daily trips134daily trips.76PM peak trips

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

⁴Assume 4 tons per trip / 36 crush days per year (see *Traffic Information Sheet Addendum* for reference).

PARADUXX WINERY – EXISTING CONDITIONS

Winery Traffic Information / Trip Generation Sheet

Traffic during a Crush Weekday

Number of FT employees: <u>36</u> x 3.05 one-way trips per employee	=	110da	ily trips.
Number of PT employees: <u>5</u> x 1.90 one-way trips per employee	=	10da	ily trips.
Average number of weekday visitors: 50 / 2.6 visitors per vehicle x 2 one-way trips	=	<u> </u>	aily trips.
Gallons of production: 200,000 1,000 x .009 truck trips daily ³ x 2 one-way trips	=	4da	ily trips.
Total	=	<u> </u>	ily trips.
Number of total weekday trips X .57 *	=	<u>93</u> PN	l peak trips.

^{* .57} rather than .38 factor requested by Public Works due to peak traffic hour on Friday afternoon along Silverado Trail occurring from 3:15 to 4:15, peak activity time at the winery.

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

⁴Assume 4 tons per trip / 36 crush days per year (see *Traffic Information Sheet Addendum* for reference).

PARADUXX WINERY – EXISTING + PROJECT CONDITIONS

Winery Traffic Information / Trip Generation Sheet

Traffic during a Typical Weekday

Number of FT employees: <u>31</u> x 3.05 one-way trips per employee	= _	<u>95</u> daily trips.
Number of PT employees: <u>5</u> x 1.90 one-way trips per employee	= _	<u>10</u> daily trips.
Average number of weekday visitors: 50 / 2.6 visitors per vehicle x 2 one-way trips	= _	38 daily trips.
Gallons of production: <u>300,000</u> 1,000 x .009 truck trips daily ³ x 2 one-way trips	= _	5 daily trips.
Total	= _	148 daily trips.
Number of total weekday trips X .38	= _	57 PM peak trips.
Traffic during a Typical Saturday		
Number of FT employees (on Saturdays): <u>20</u> x 3.05 one-way trips per employee	= _	60 daily trips.
Number of PT employees (on Saturdays): <u>5</u> x 1.90 one-way trips per employee	= _	<u>10</u> daily trips.
Average number of Saturday visitors: <u>120</u> / 2.8 visitors per vehicle x 2 one-way trips	= _	86 daily trips.
Total	= _	<u>156</u> daily trips.
Number of total Saturday trips X .57	= _	89 PM peak trips.
Traffic during a Crush Saturday		
Traffic during a Crush Saturday Number of FT employees (during crush): <u>25</u> x 3.05 one-way trips per employee	= _	<u>76</u> daily trips.
	= _	<u>76</u> daily trips. <u>10</u> daily trips.
Number of FT employees (during crush): <u>25</u> x 3.05 one-way trips per employee	-	
Number of FT employees (during crush): <u>25</u> x 3.05 one-way trips per employee Number of PT employees (during crush): <u>5</u> x 1.90 one-way trips per employee	= _	<u>10</u> daily trips.
Number of FT employees (during crush): 25 x 3.05 one-way trips per employee Number of PT employees (during crush): 5 x 1.90 one-way trips per employee Average number of Saturday visitors: 144 / 2.8 visitors per vehicle x 2 one-way trips	= _	<u> </u>
Number of FT employees (during crush): <u>25</u> x 3.05 one-way trips per employee Number of PT employees (during crush): <u>5</u> x 1.90 one-way trips per employee Average number of Saturday visitors: <u>144</u> / 2.8 visitors per vehicle x 2 one-way trips Gallons of production: <u>300,000</u> / 1,000 x .009 truck trips daily x 2 one-way trips	= _ = _ = _	<u>10</u> daily trips. <u>105</u> daily trips. <u>5</u> daily trips.
Number of FT employees (during crush): <u>25</u> x 3.05 one-way trips per employee Number of PT employees (during crush): <u>5</u> x 1.90 one-way trips per employee Average number of Saturday visitors: <u>144</u> / 2.8 visitors per vehicle x 2 one-way trips Gallons of production: <u>300,000</u> / 1,000 x .009 truck trips daily x 2 one-way trips Avg. annual tons of grape on-haul: <u>45</u> x.11 truck trips daily ⁴ x 2 one-way trips	= _ = _ = _	10daily trips.105daily trips.5daily trips.10daily trips
Number of FT employees (during crush): <u>25</u> x 3.05 one-way trips per employee Number of PT employees (during crush): <u>5</u> x 1.90 one-way trips per employee Average number of Saturday visitors: <u>144</u> / 2.8 visitors per vehicle x 2 one-way trips Gallons of production: <u>300,000</u> / 1,000 x .009 truck trips daily x 2 one-way trips Avg. annual tons of grape on-haul: <u>45</u> x.11 truck trips daily ⁴ x 2 one-way trips Total	=	10daily trips.105daily trips.5daily trips.10daily trips206daily trips.
Number of FT employees (during crush): <u>25</u> x 3.05 one-way trips per employee Number of PT employees (during crush): <u>5</u> x 1.90 one-way trips per employee Average number of Saturday visitors: <u>144</u> / 2.8 visitors per vehicle x 2 one-way trips Gallons of production: <u>300,000</u> / 1,000 x .009 truck trips daily x 2 one-way trips Avg. annual tons of grape on-haul: <u>45</u> x.11 truck trips daily ⁴ x 2 one-way trips Total Number of total Saturday trips X .57	=	10daily trips.105daily trips.5daily trips.10daily trips206daily trips.
Number of FT employees (during crush): <u>25</u> x 3.05 one-way trips per employee Number of PT employees (during crush): <u>5</u> x 1.90 one-way trips per employee Average number of Saturday visitors: <u>144</u> / 2.8 visitors per vehicle x 2 one-way trips Gallons of production: <u>300,000</u> / 1,000 x .009 truck trips daily x 2 one-way trips Avg. annual tons of grape on-haul: <u>45</u> x.11 truck trips daily ⁴ x 2 one-way trips Total Number of total Saturday trips X .57 Largest Marketing Event – Additional Traffic		10daily trips.105daily trips.5daily trips.10daily trips206daily trips.118PM peak trips

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

⁴Assume 4 tons per trip / 36 crush days per year (see *Traffic Information Sheet Addendum* for reference).

PARADUXX WINERY – EXISTING + PROJECT CONDITIONS

Winery Traffic Information / Trip Generation Sheet

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Traffic during a Crush Weekday

Number of FT employees: <u>36</u> x 3.05 one-way trips per employee	=	110	_ daily trips.
Number of PT employees: <u>5</u> x 1.90 one-way trips per employee	=	10	daily trips.
Average number of weekday visitors: <u>144</u> / 2.6 visitors per vehicle x 2 one-way trips	=	111	daily trips.
Gallons of production: <u>300,000</u> 1,000 x .009 truck trips daily ³ x 2 one-way trips	=	5	_ daily trips.
Total	=	236	daily trips.
Number of total weekday trips X .57*	=	135	_PM peak trips.

^{* .57} rather than .38 factor requested by Public Works due to peak traffic hour on Friday afternoon along Silverado Trail occurring from 3:15 to 4:15, peak activity time at the winery.

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

⁴Assume 4 tons per trip / 36 crush days per year (see *Traffic Information Sheet Addendum* for reference).